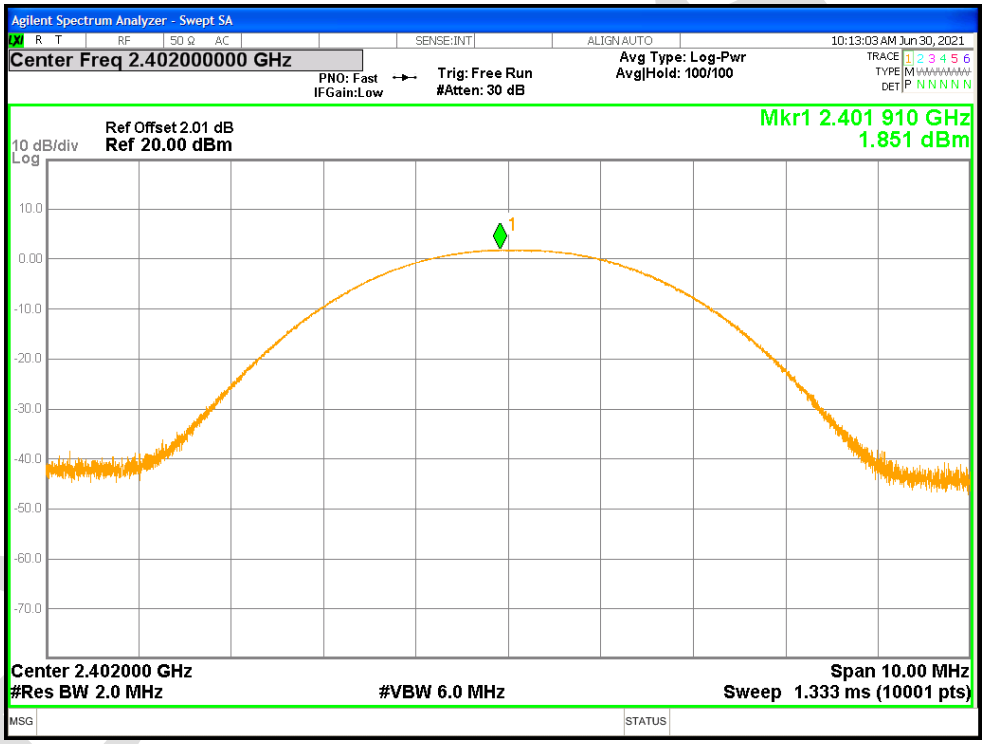
20 APPENDIX

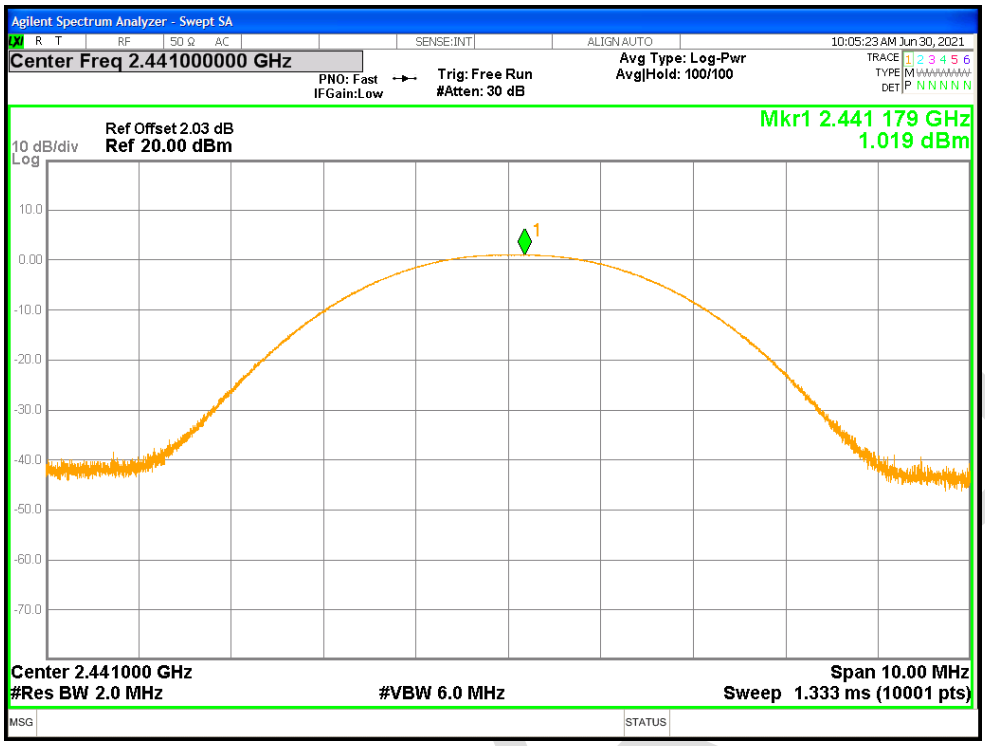
20.1 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	1.851	21	Pass
NVNT	1-DH1	2441	Ant1	1.019	21	Pass
NVNT	1-DH1	2480	Ant1	1.144	21	Pass
NVNT	2-DH1	2402	Ant1	2.18	21	Pass
NVNT	2-DH1	2441	Ant1	1.48	21	Pass
NVNT	2-DH1	2480	Ant1	1.523	21	Pass
NVNT	3-DH1	2402	Ant1	2.366	21	Pass
NVNT	3-DH1	2441	Ant1	1.672	21	Pass
NVNT	3-DH1	2480	Ant1	1.752	21	Pass

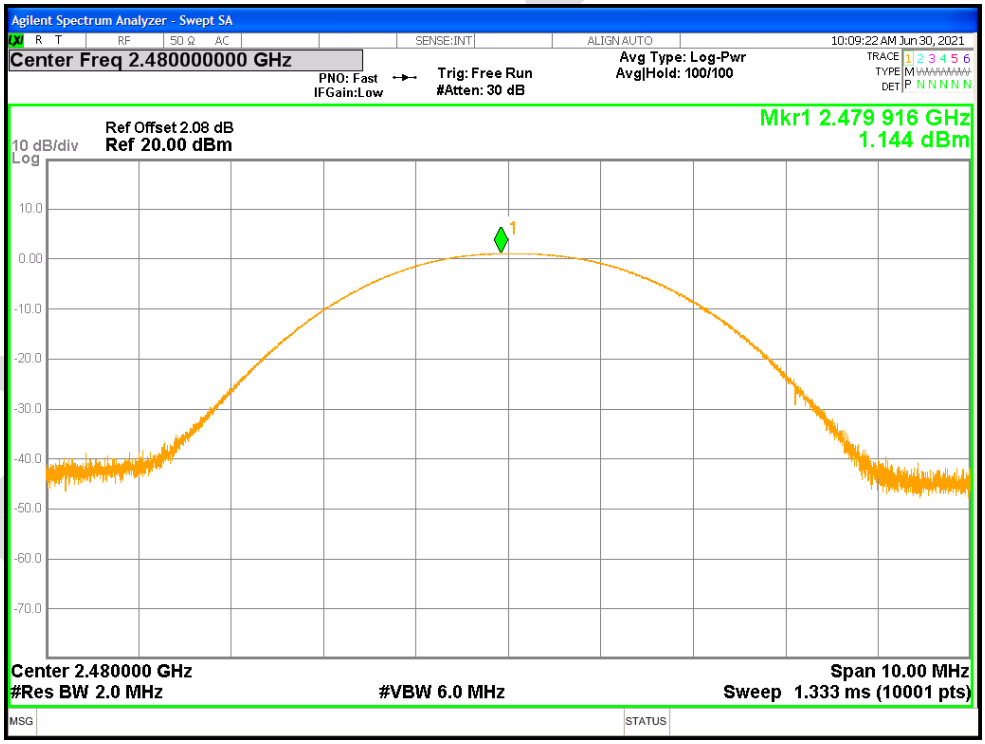
Power NVNT 1-DH1 2402MHz Ant1



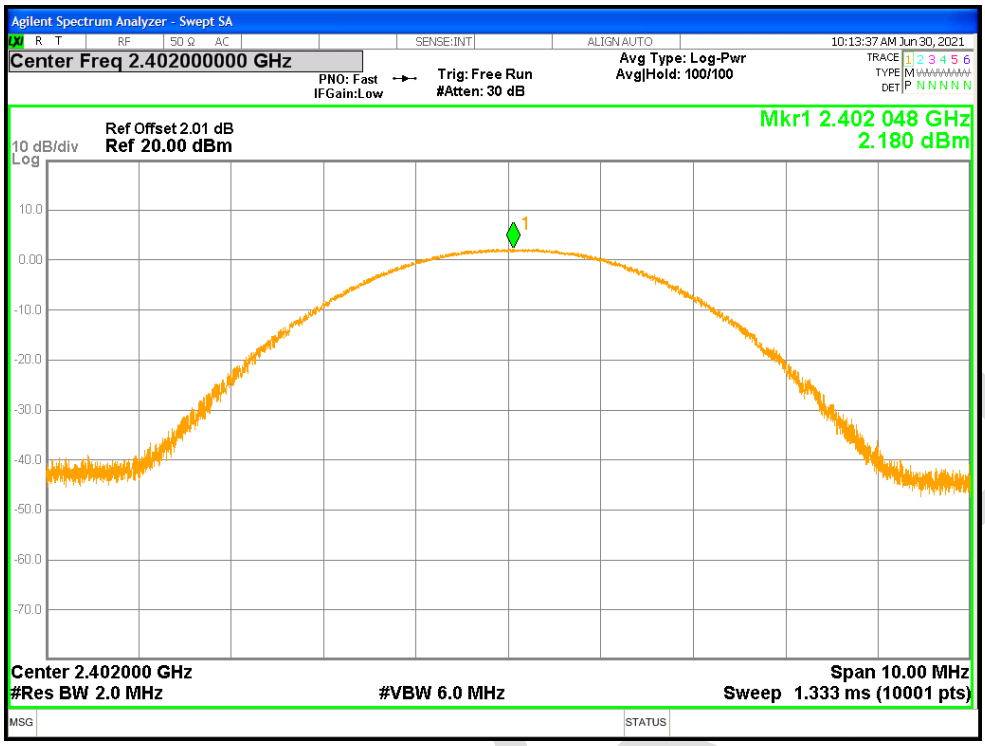
Power NVNT 1-DH1 2441MHz Ant1



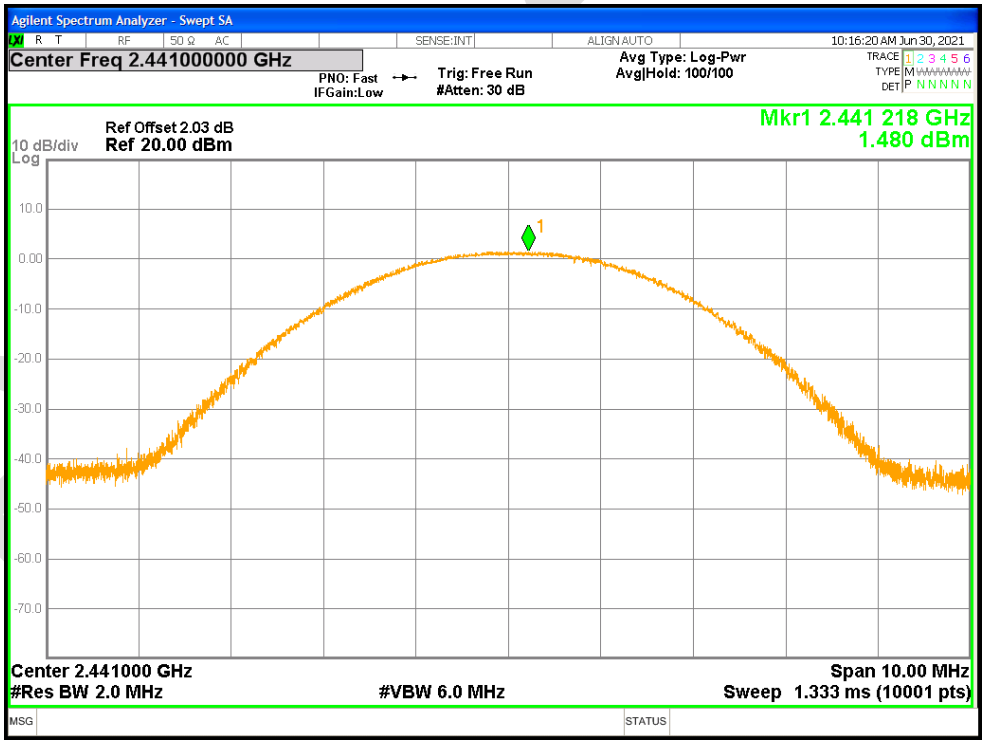
Power NVNT 1-DH1 2480MHz Ant1



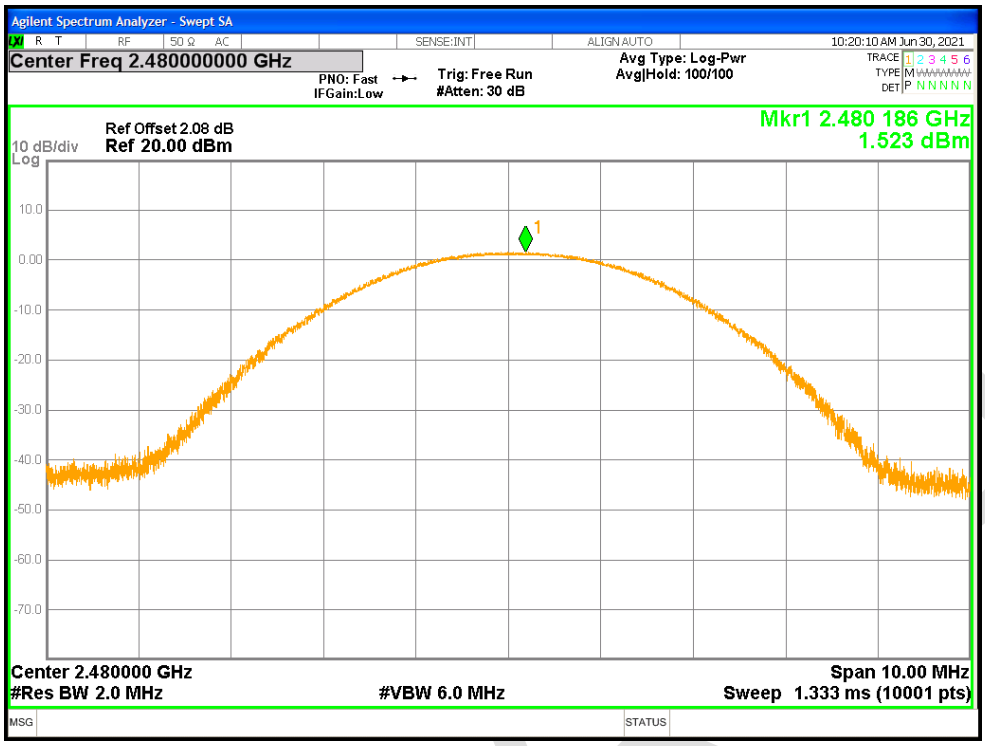
Power NVNT 2-DH1 2402MHz Ant1



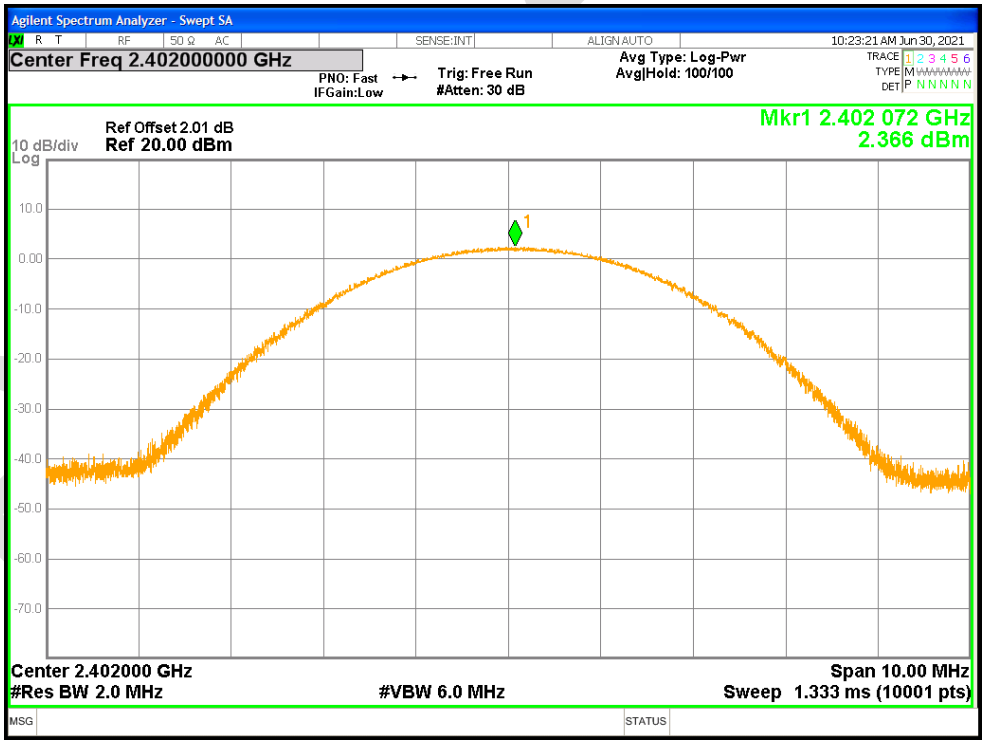
Power NVNT 2-DH1 2441MHz Ant1



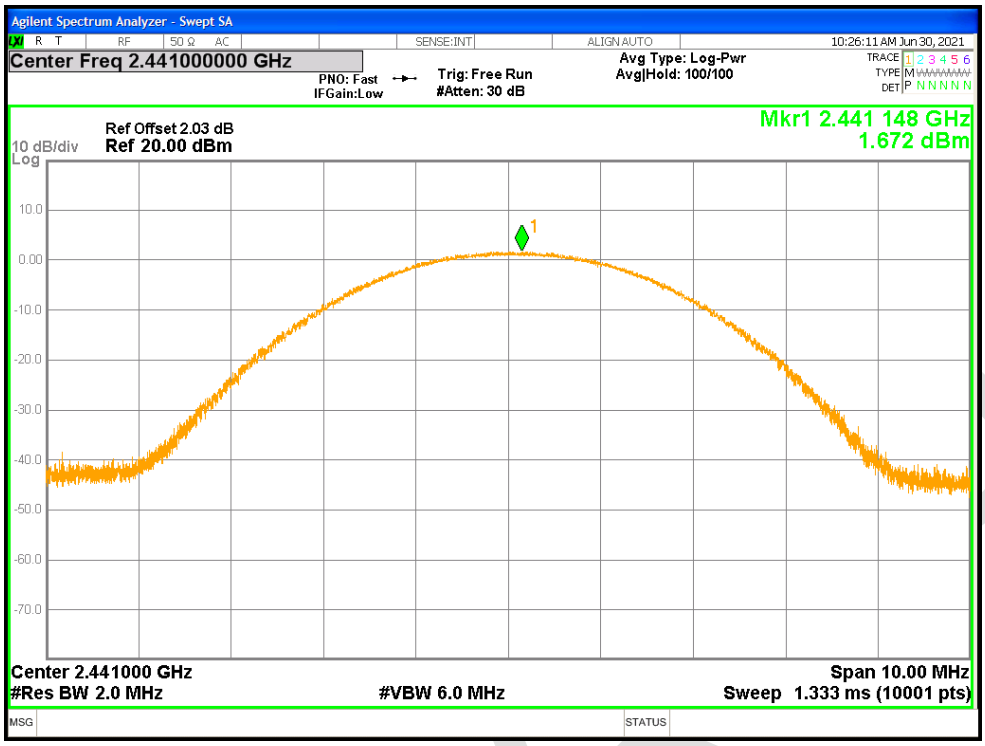
Power NVNT 2-DH1 2480MHz Ant1



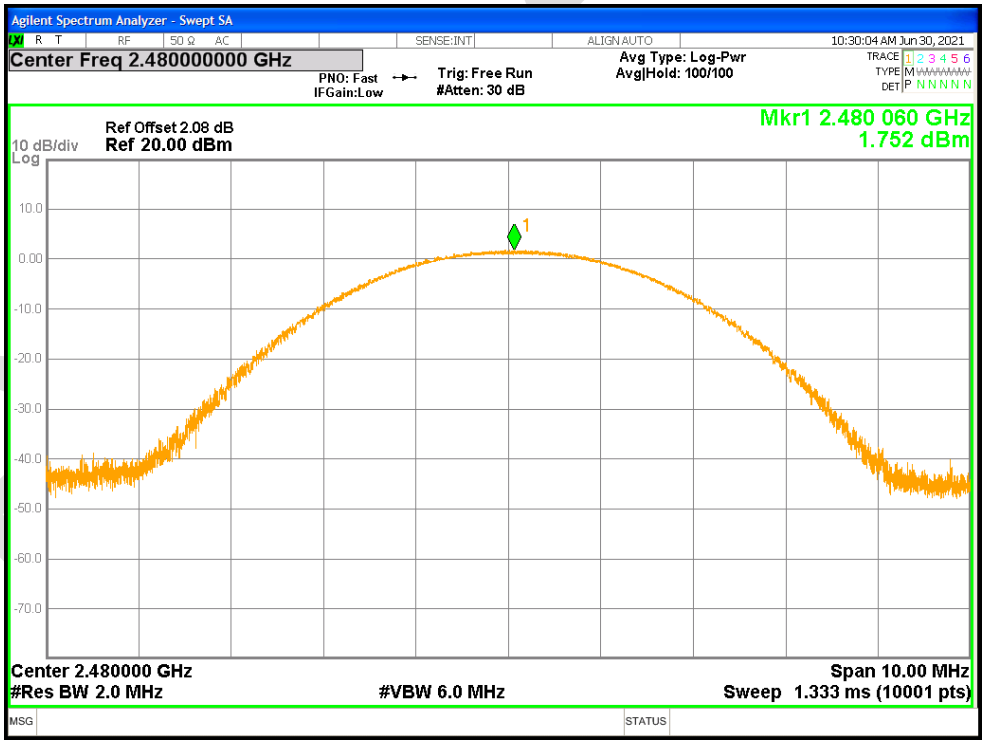
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



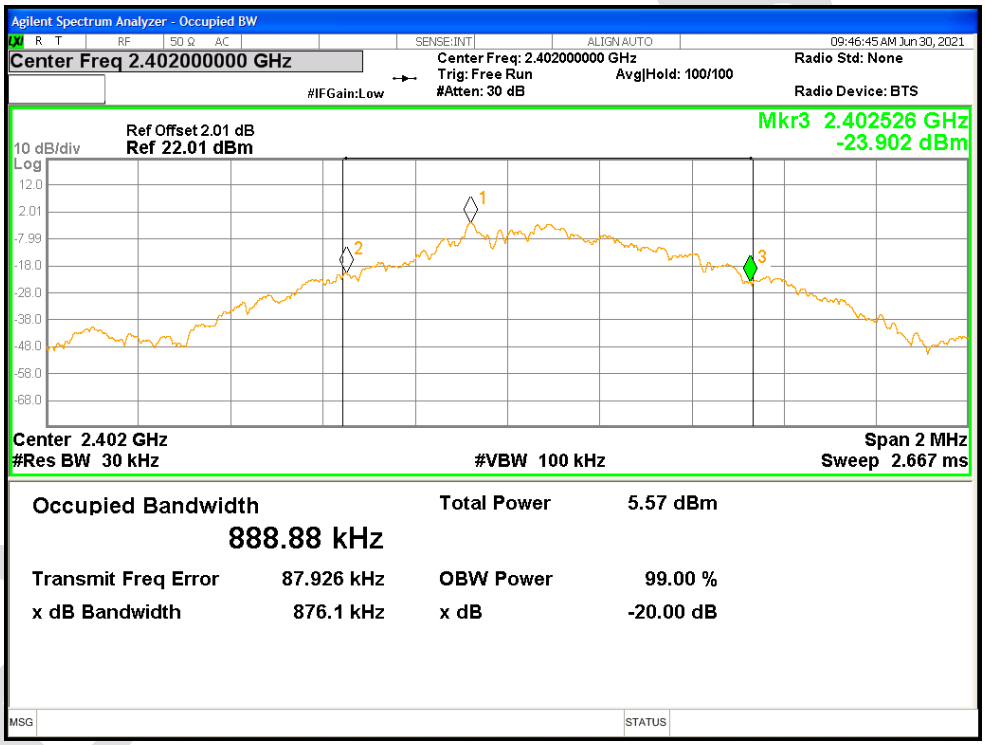
Power NVNT 3-DH1 2480MHz Ant1



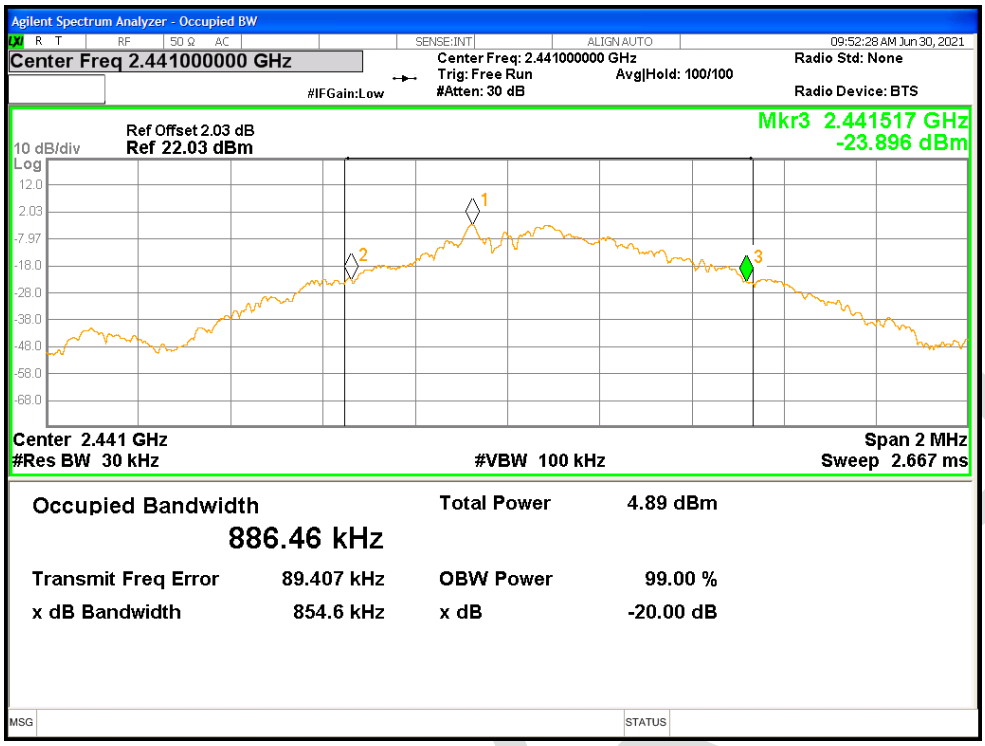
20.2 -20DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.876	0	Pass
NVNT	1-DH1	2441	Ant1	0.855	0	Pass
NVNT	1-DH1	2480	Ant1	0.928	0	Pass
NVNT	2-DH1	2402	Ant1	1.23	0	Pass
NVNT	2-DH1	2441	Ant1	1.245	0	Pass
NVNT	2-DH1	2480	Ant1	1.223	0	Pass
NVNT	3-DH1	2402	Ant1	1.222	0	Pass
NVNT	3-DH1	2441	Ant1	1.217	0	Pass
NVNT	3-DH1	2480	Ant1	1.224	0	Pass

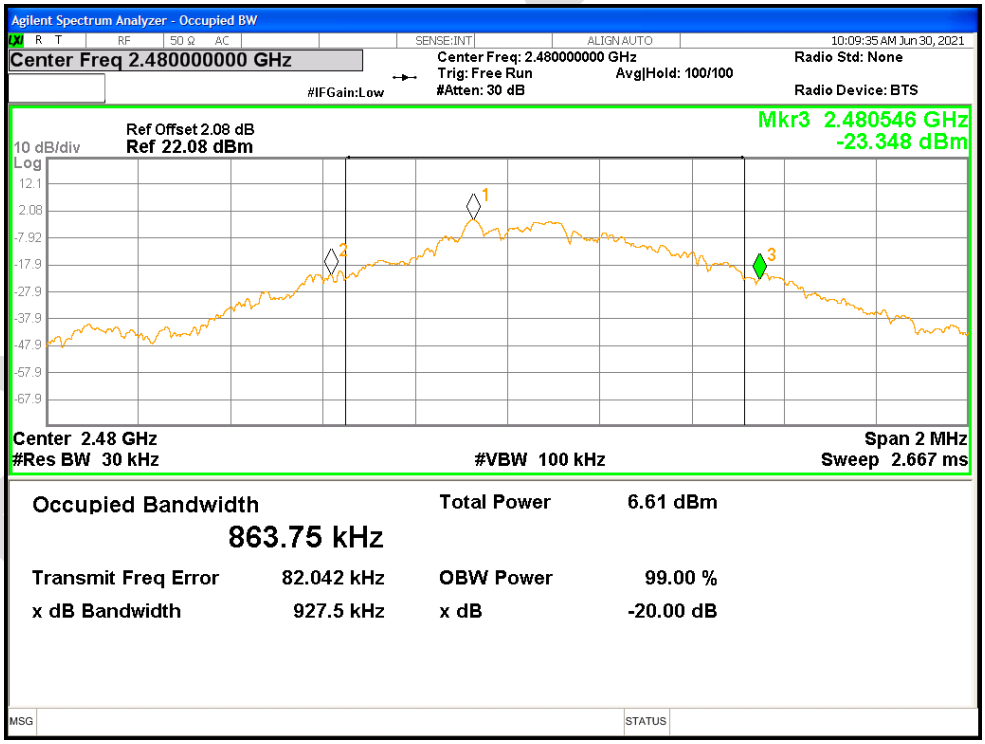
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



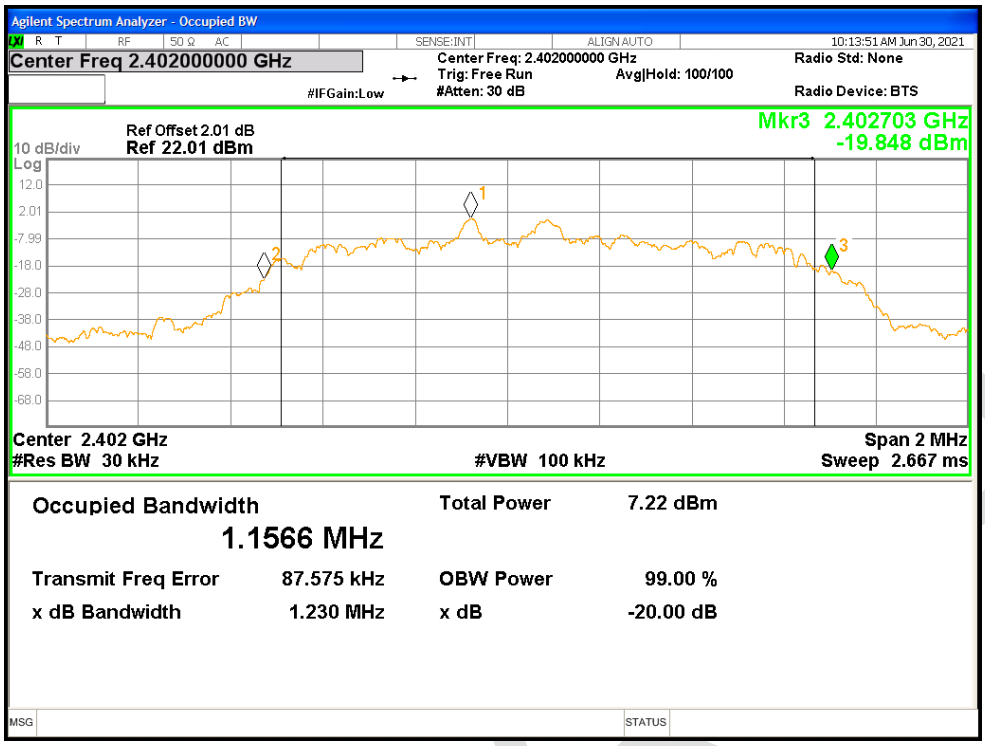
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



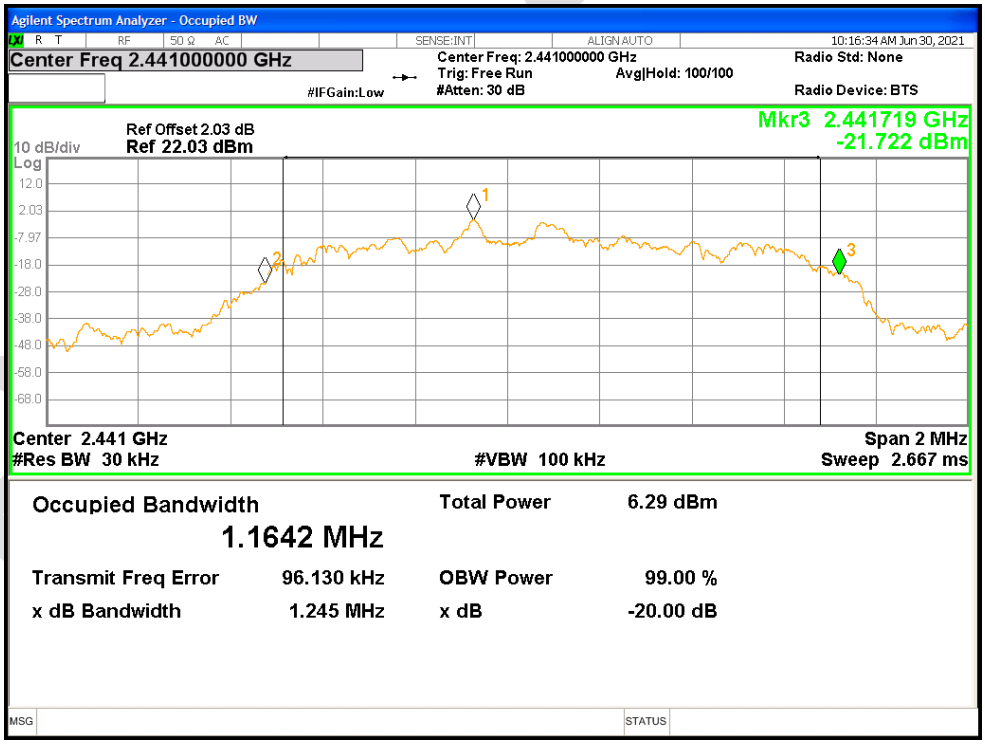
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



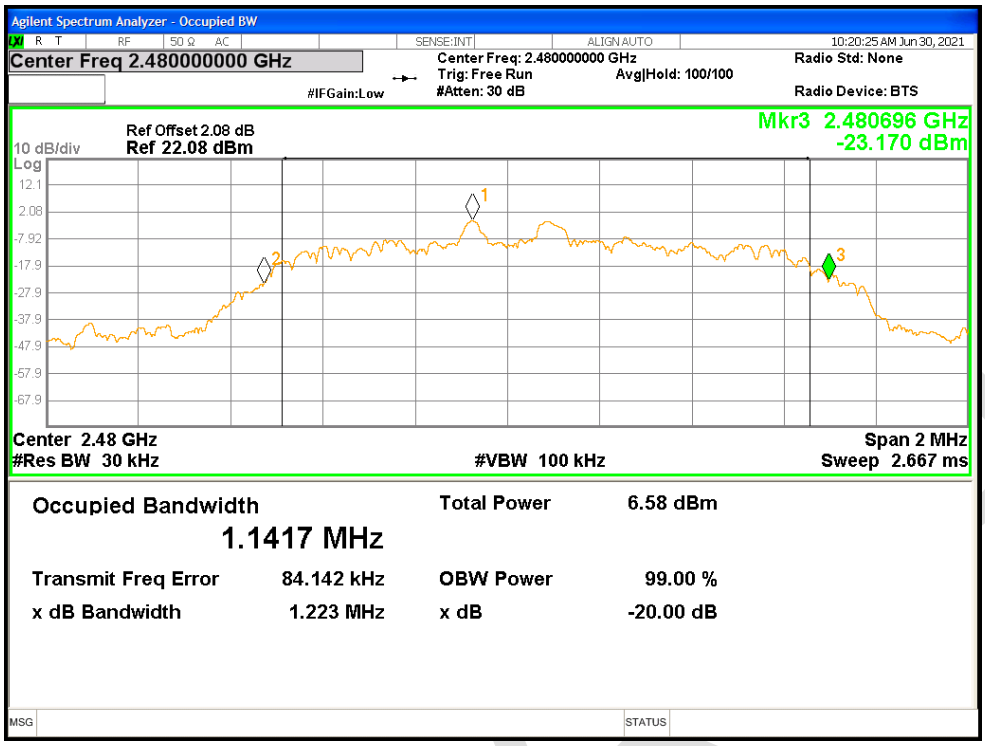
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



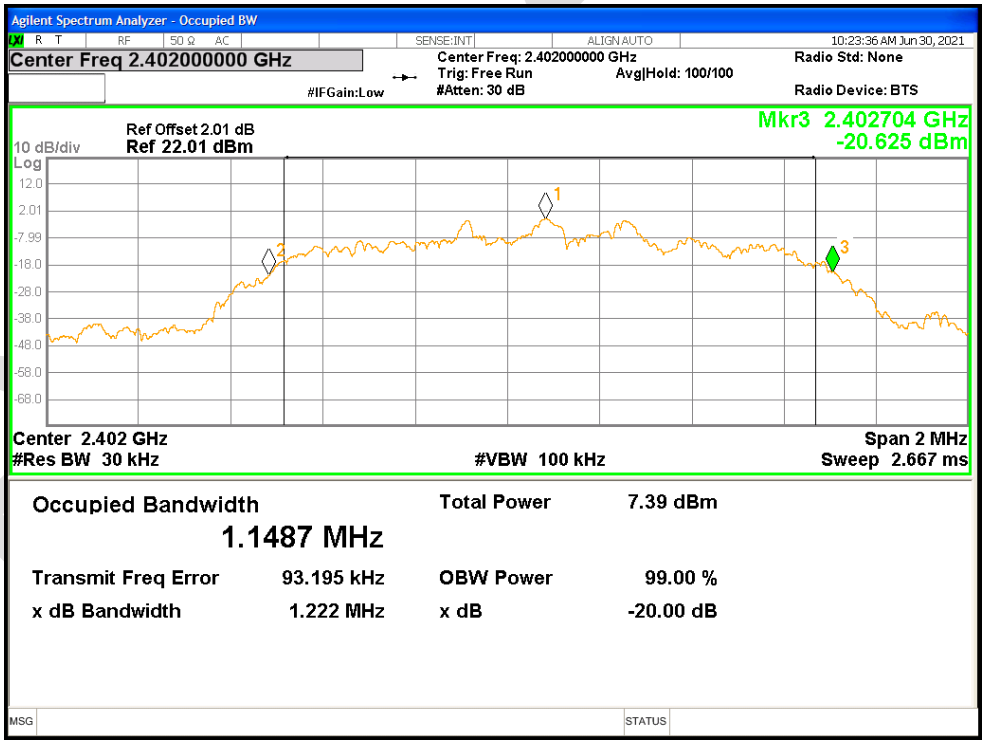
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



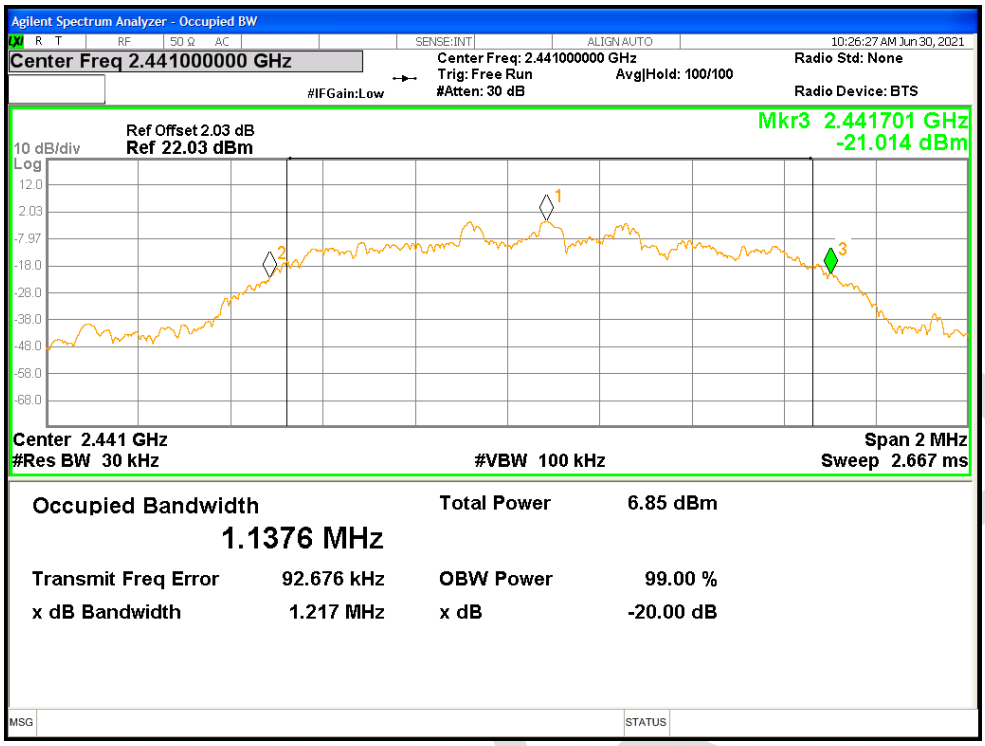
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



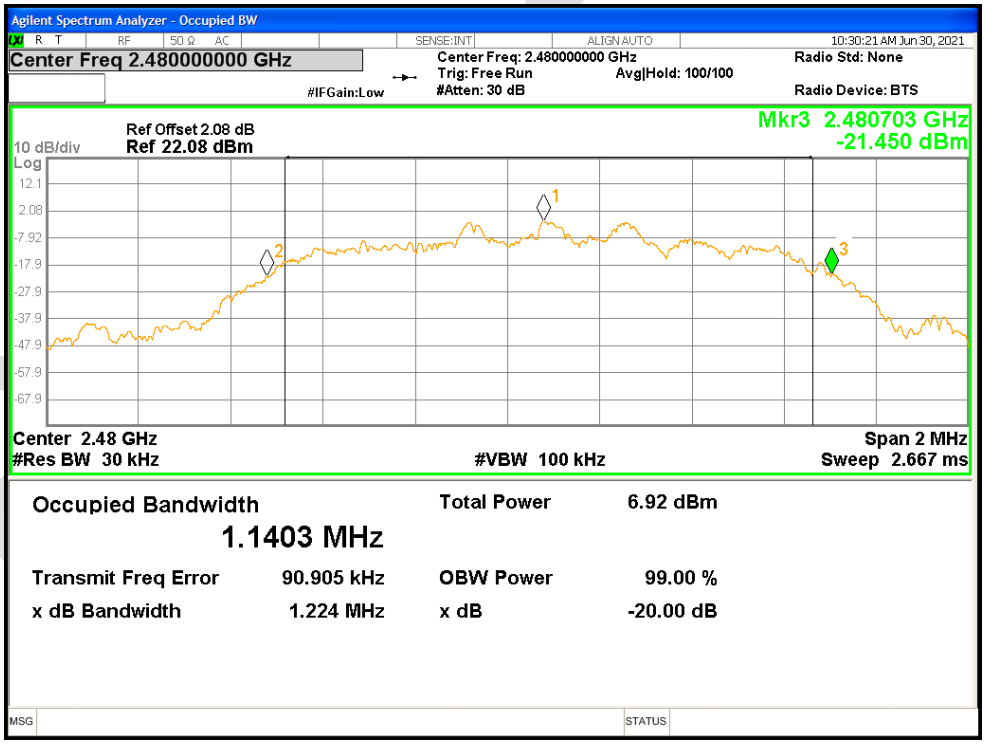
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



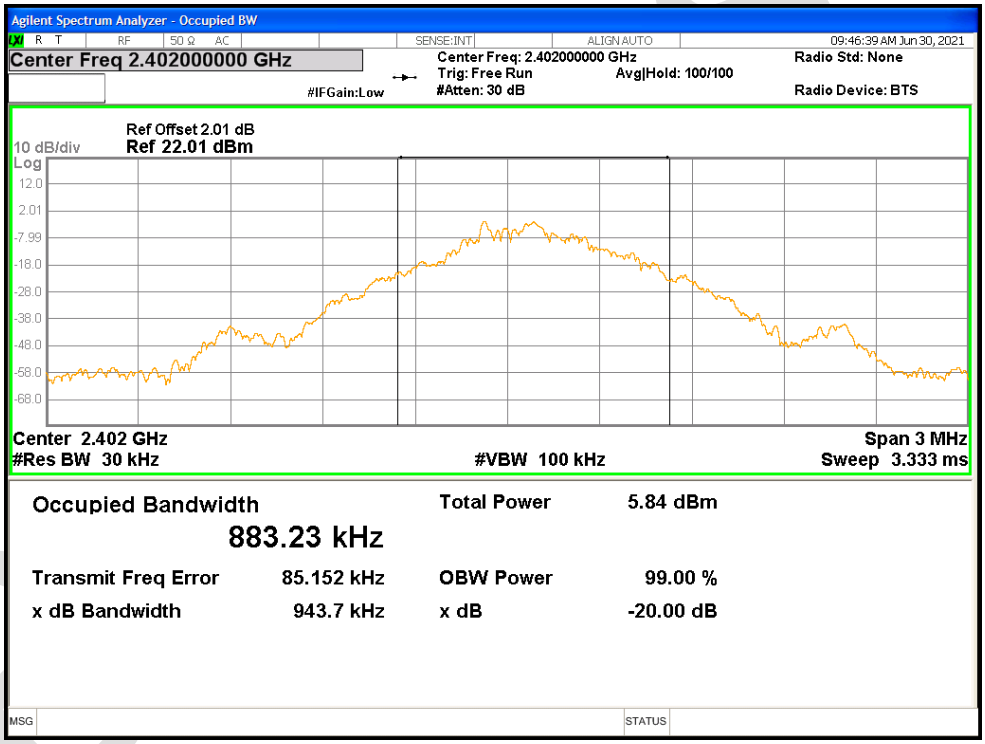
-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



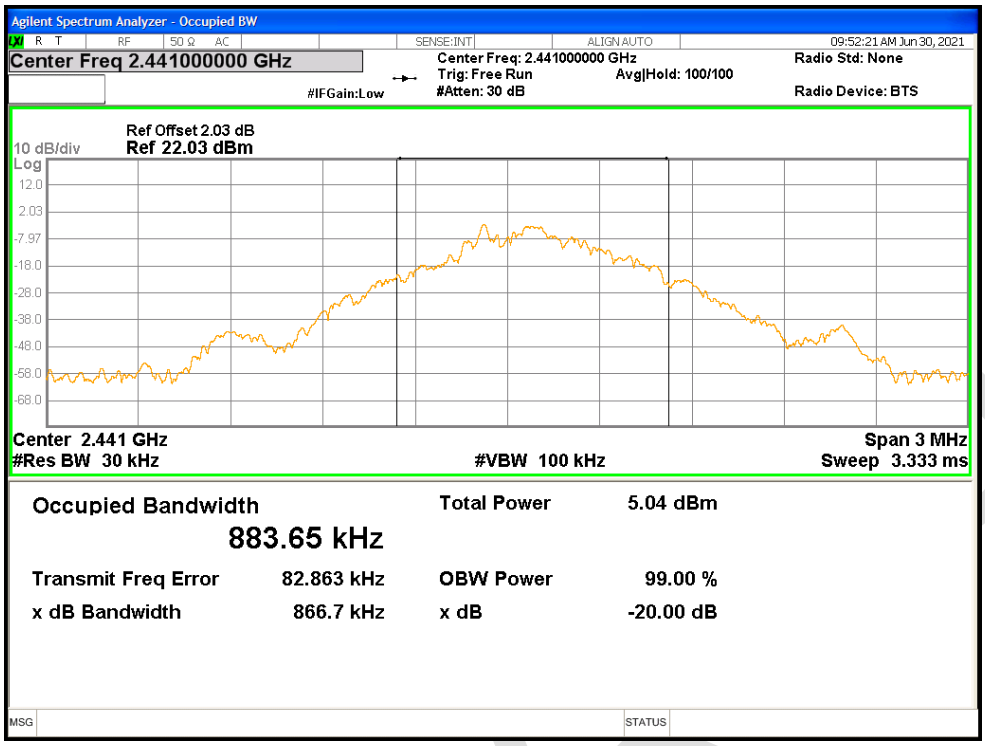
20.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.8832315158
NVNT	1-DH1	2441	Ant1	0.8836453594
NVNT	1-DH1	2480	Ant1	0.8614655842
NVNT	2-DH1	2402	Ant1	1.164612511
NVNT	2-DH1	2441	Ant1	1.171574718
NVNT	2-DH1	2480	Ant1	1.163294792
NVNT	3-DH1	2402	Ant1	1.150724608
NVNT	3-DH1	2441	Ant1	1.149601652
NVNT	3-DH1	2480	Ant1	1.148688095

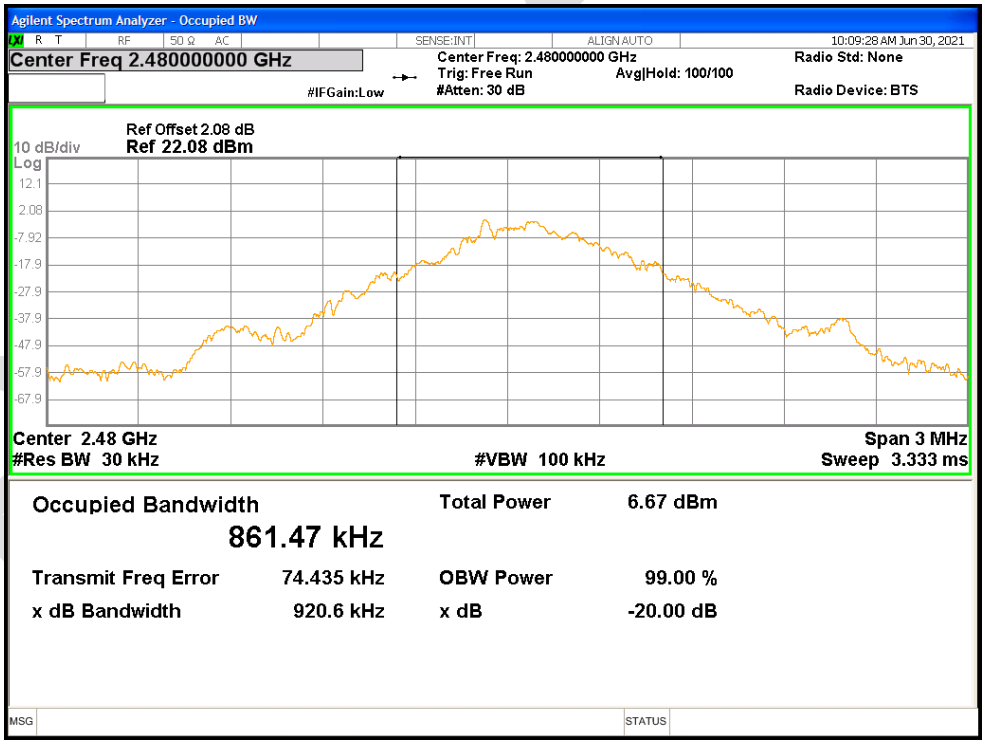
OBW NVNT 1-DH1 2402MHz Ant1



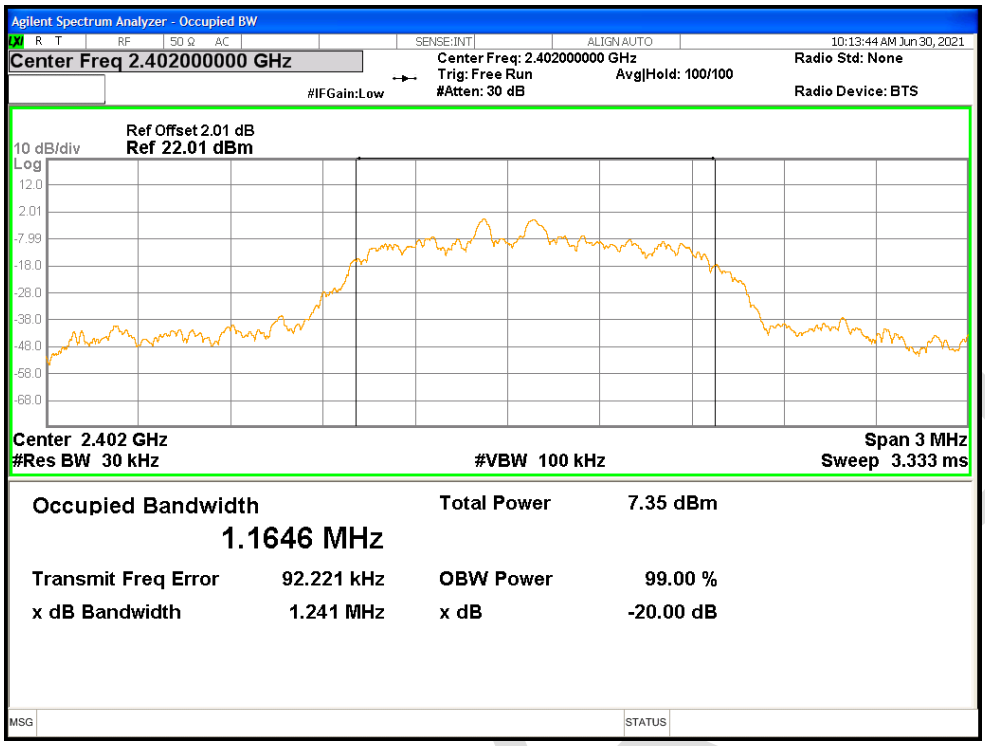
OBW NVNT 1-DH1 2441MHz Ant1



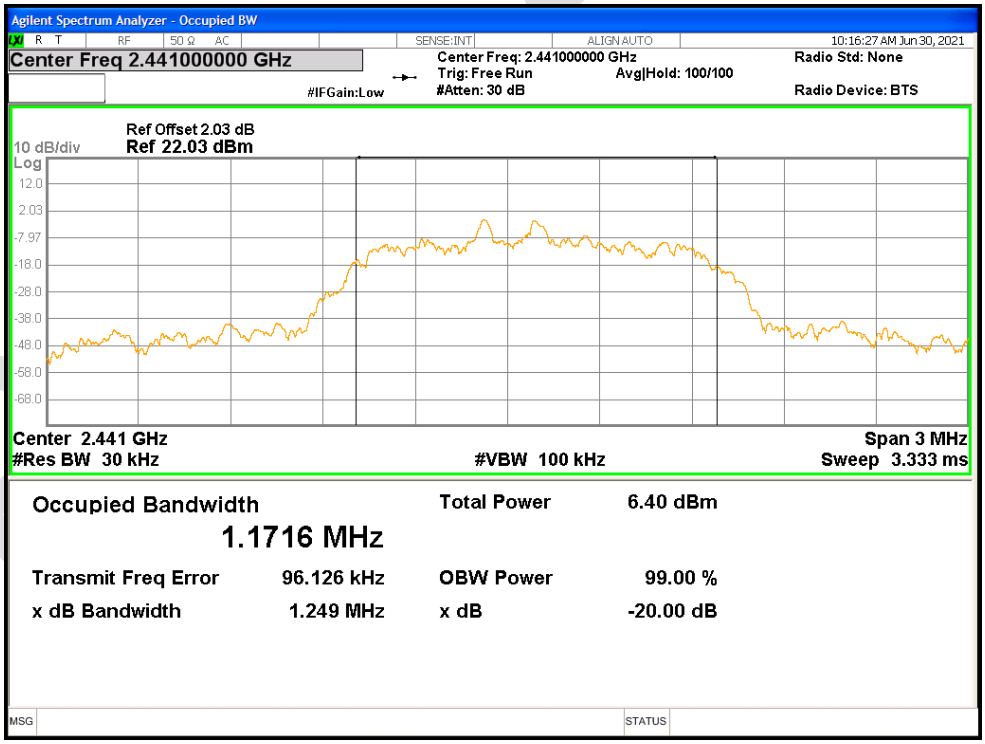
OBW NVNT 1-DH1 2480MHz Ant1



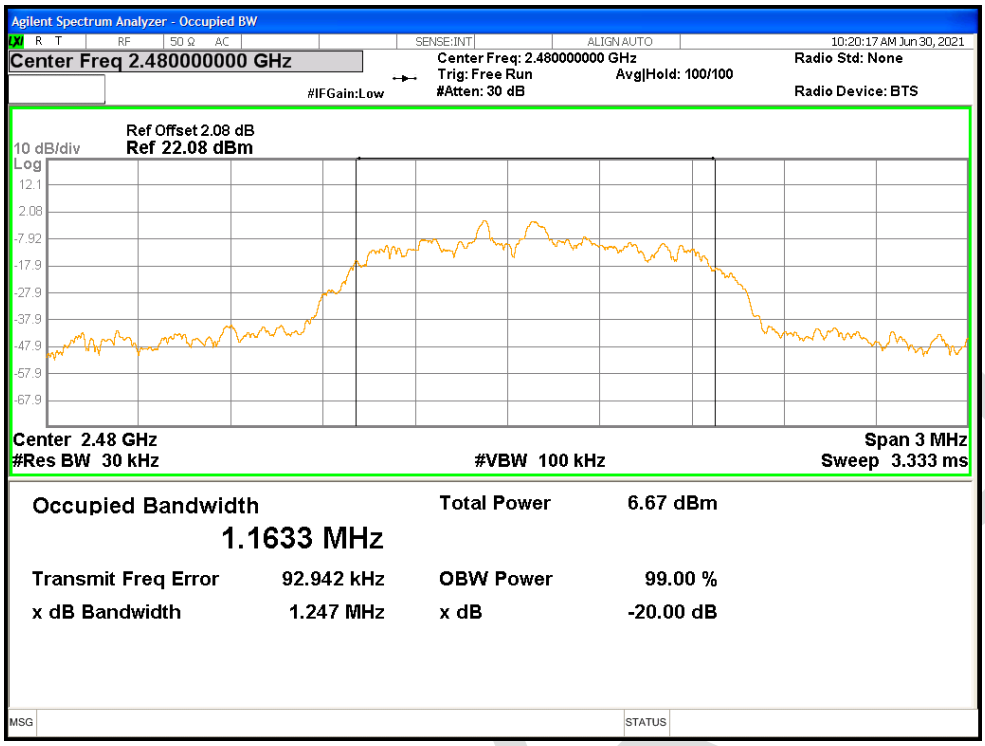
OBW NVNT 2-DH1 2402MHz Ant1



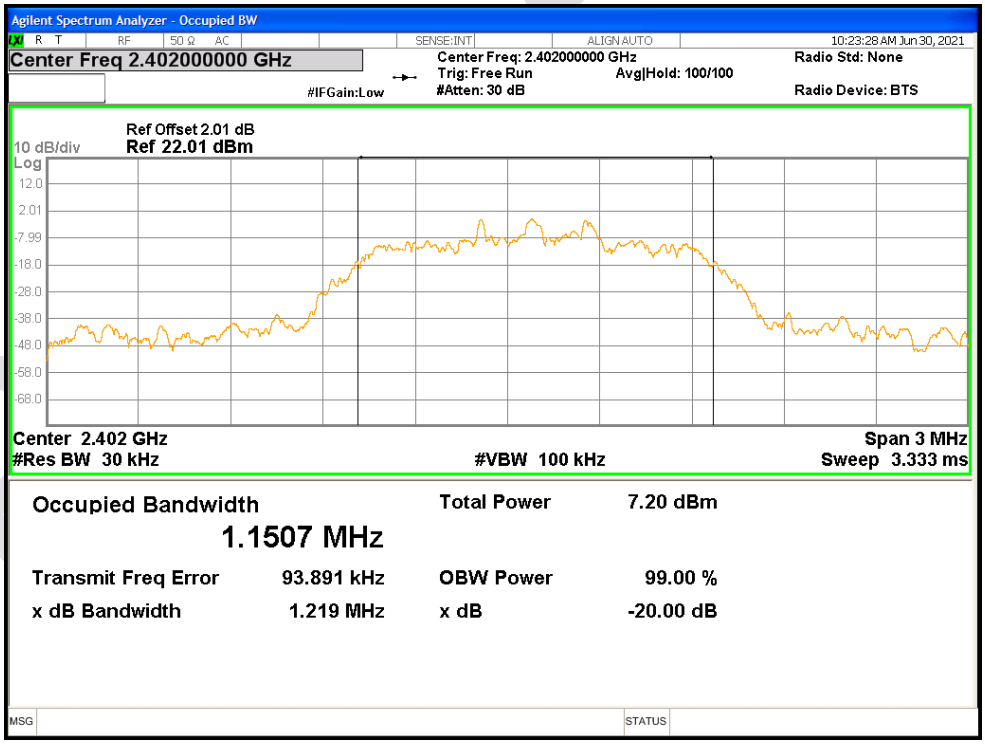
OBW NVNT 2-DH1 2441MHz Ant1



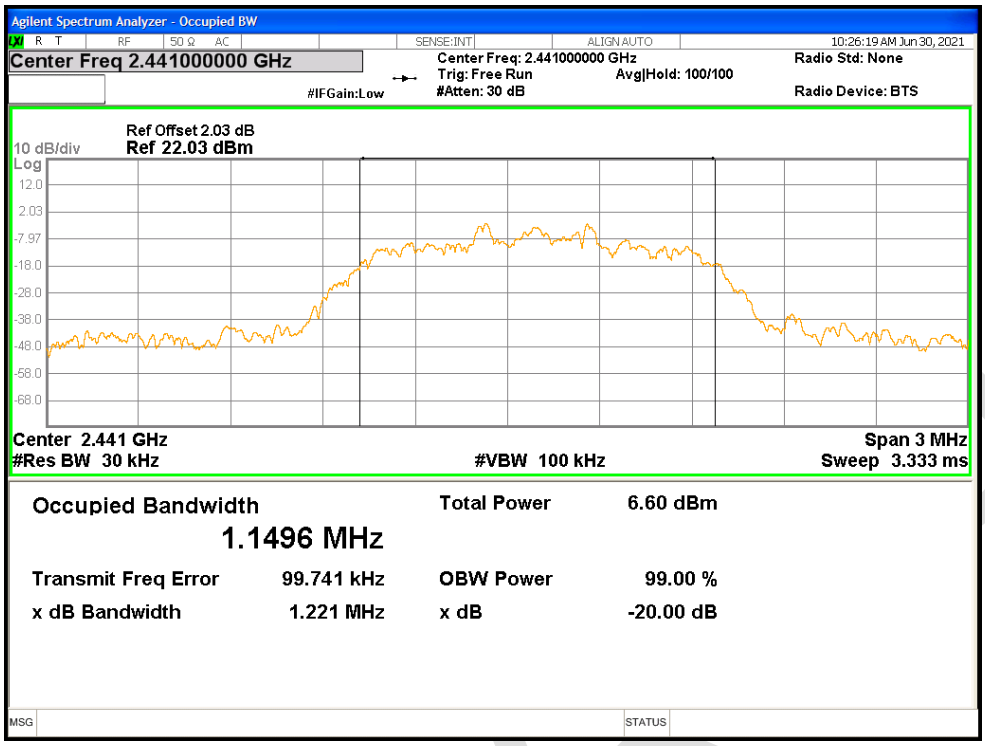
OBW NVNT 2-DH1 2480MHz Ant1



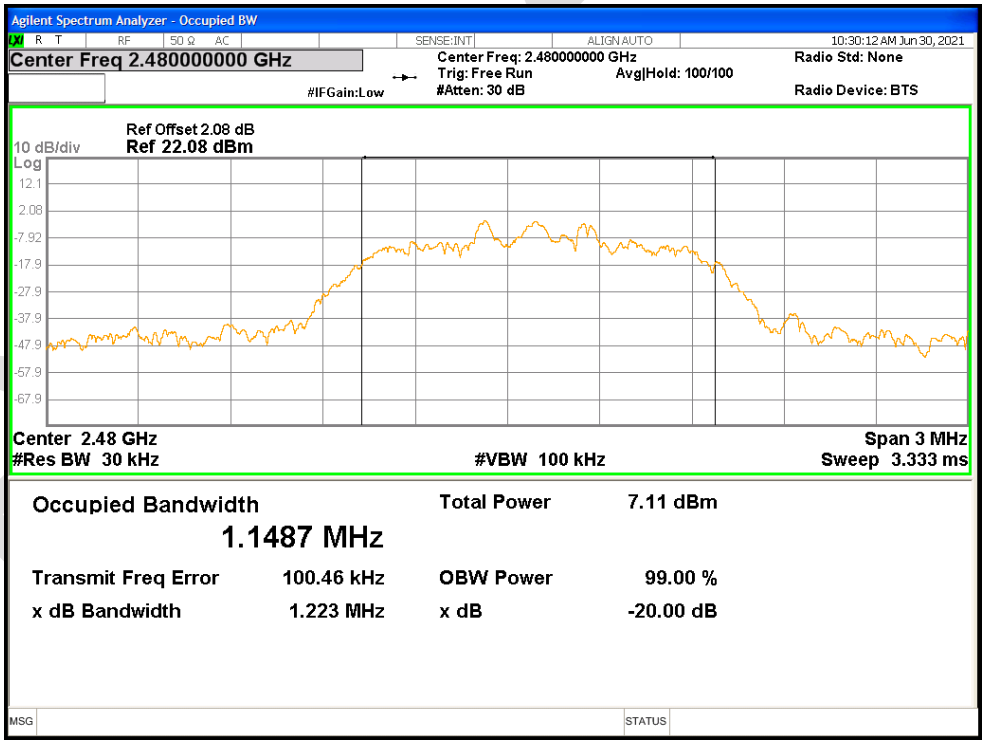
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



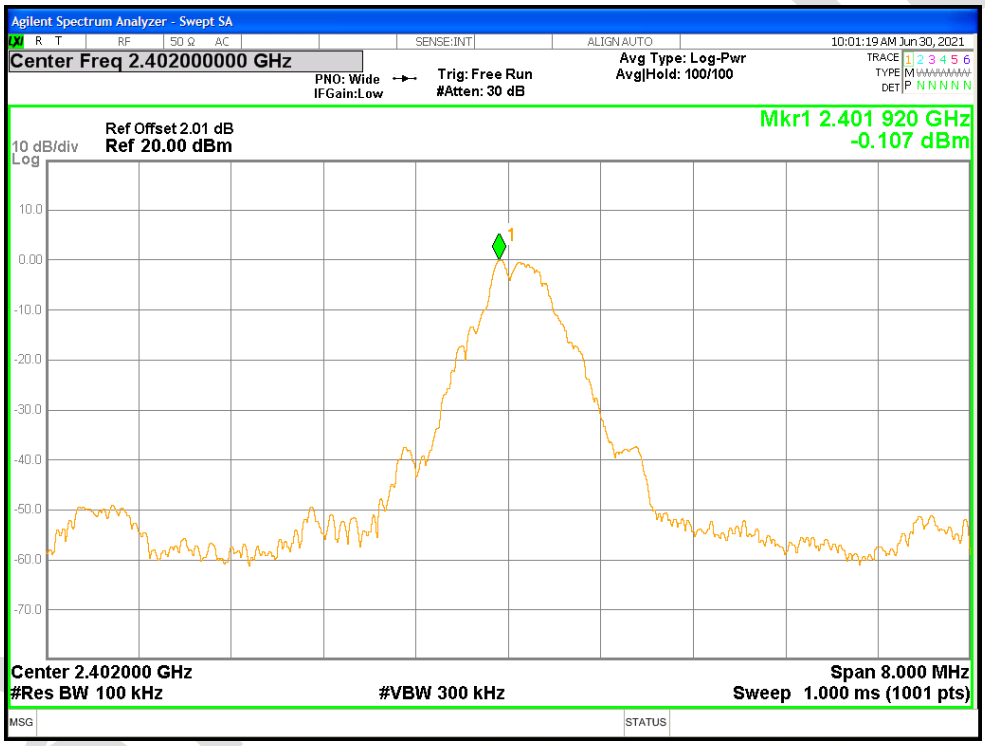
OBW NVNT 3-DH1 2480MHz Ant1



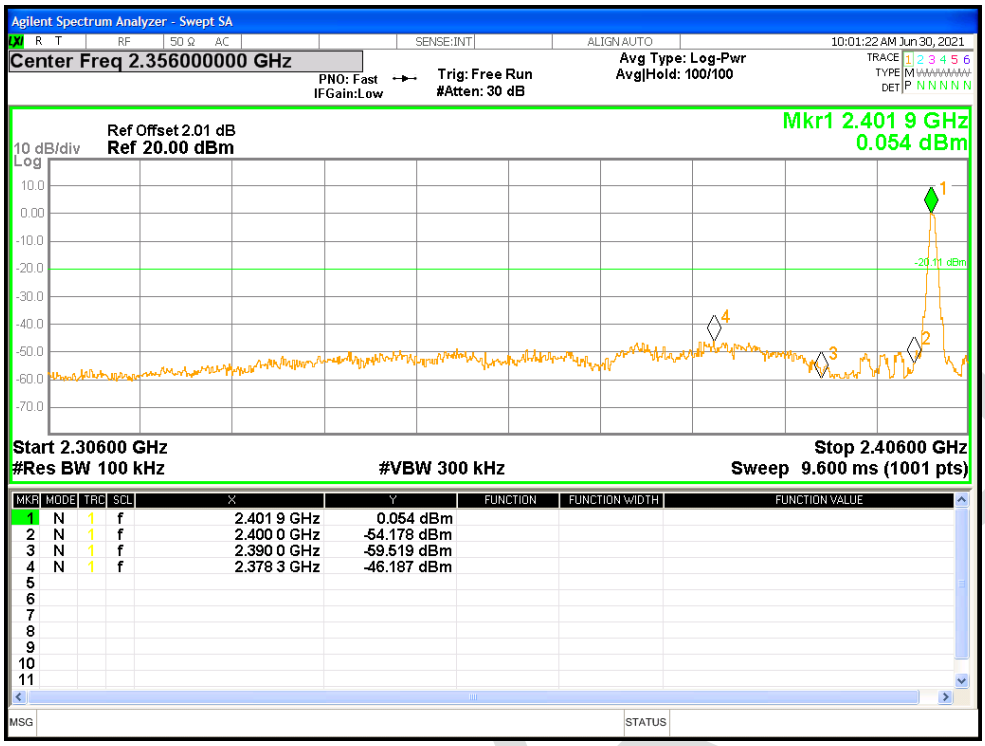
20.4 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-46.07	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.2	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-45.22	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-49.99	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-45.01	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-51.07	-20	Pass

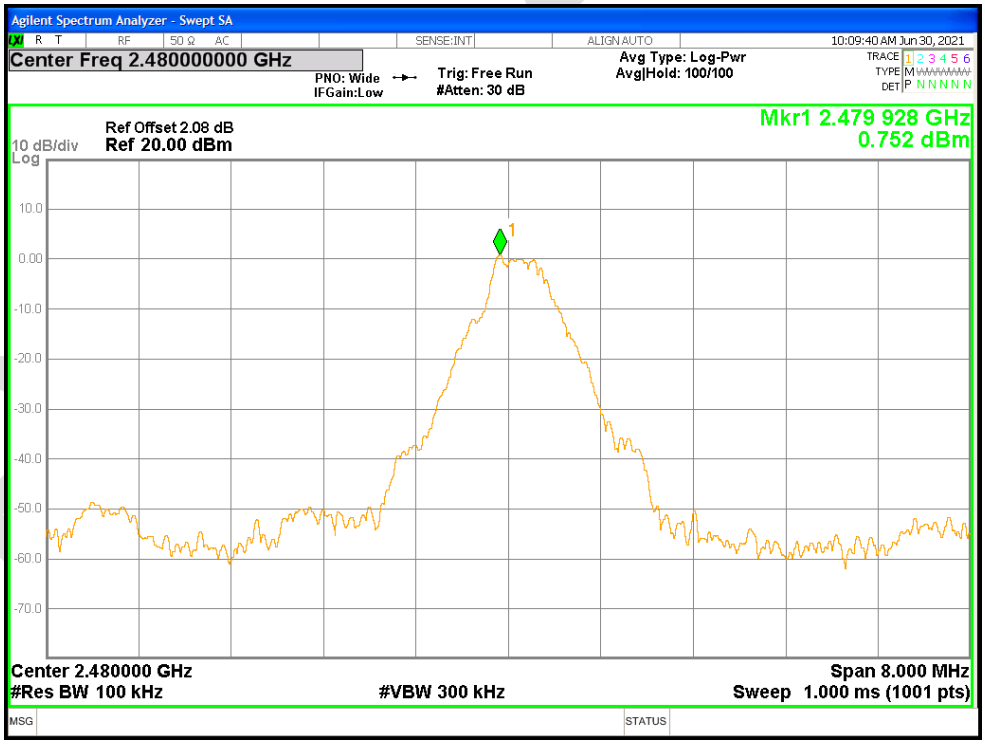
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



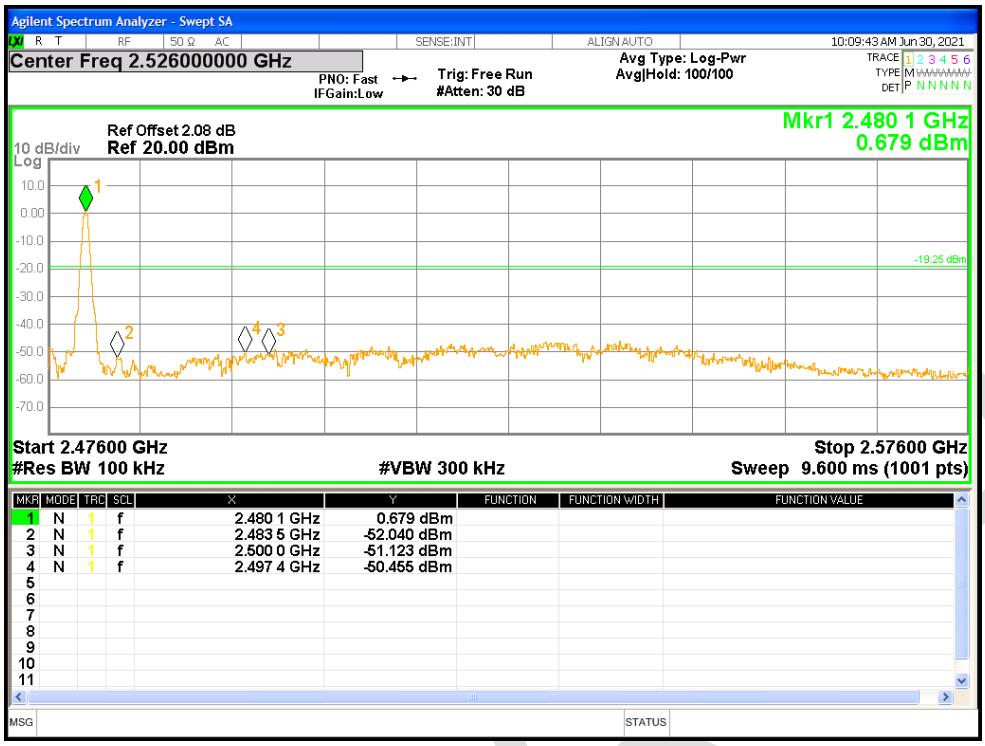
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



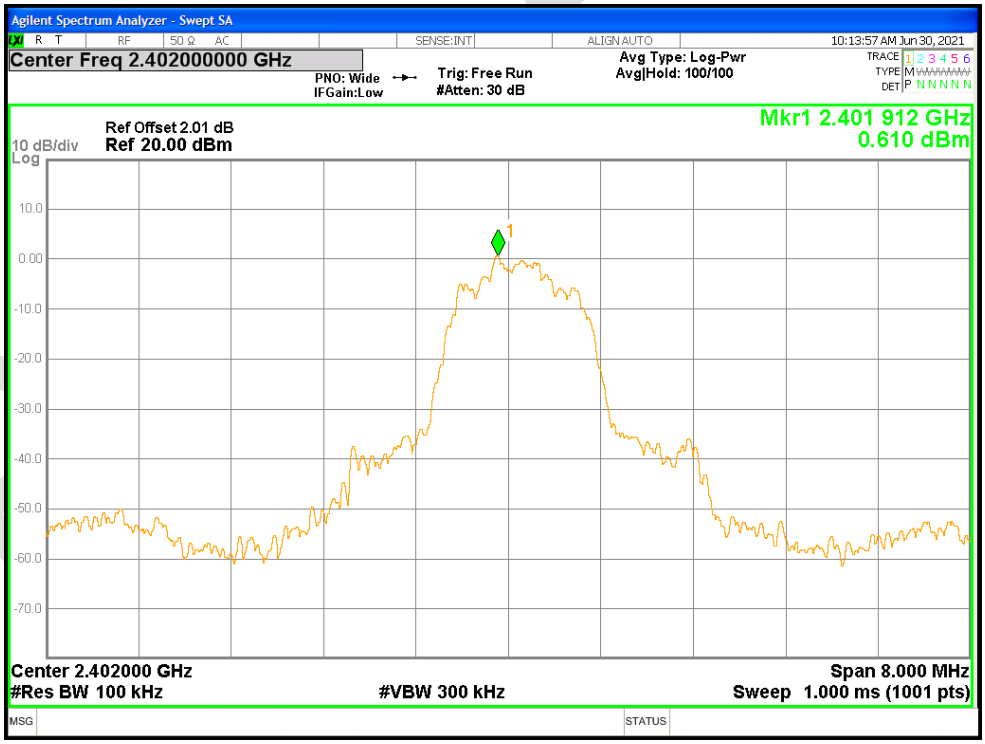
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



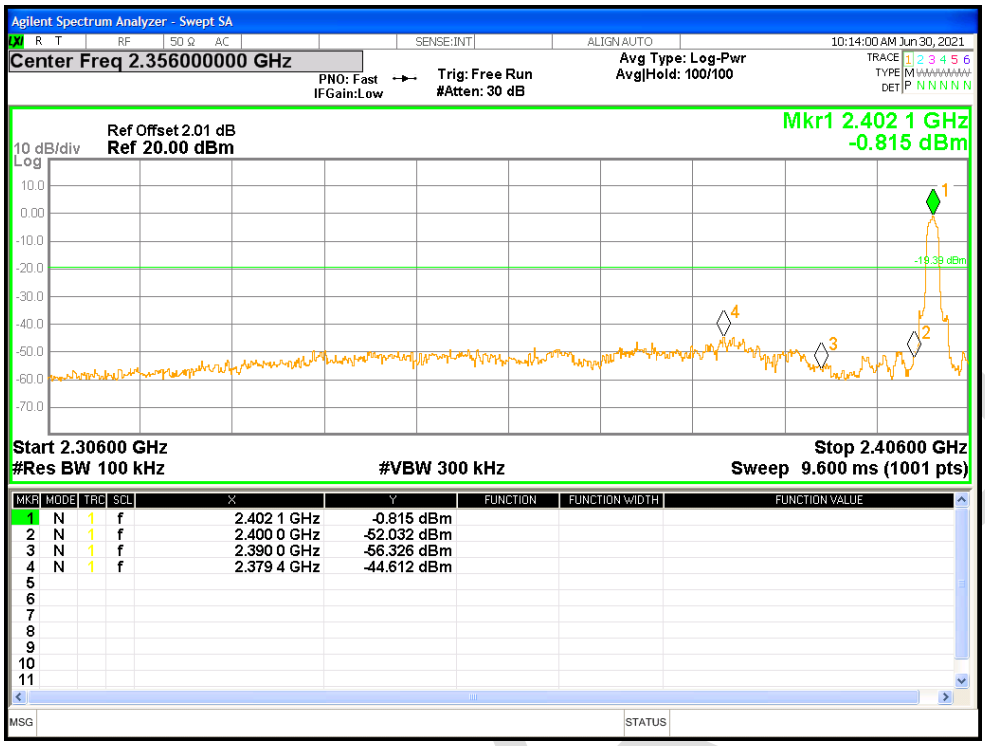
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



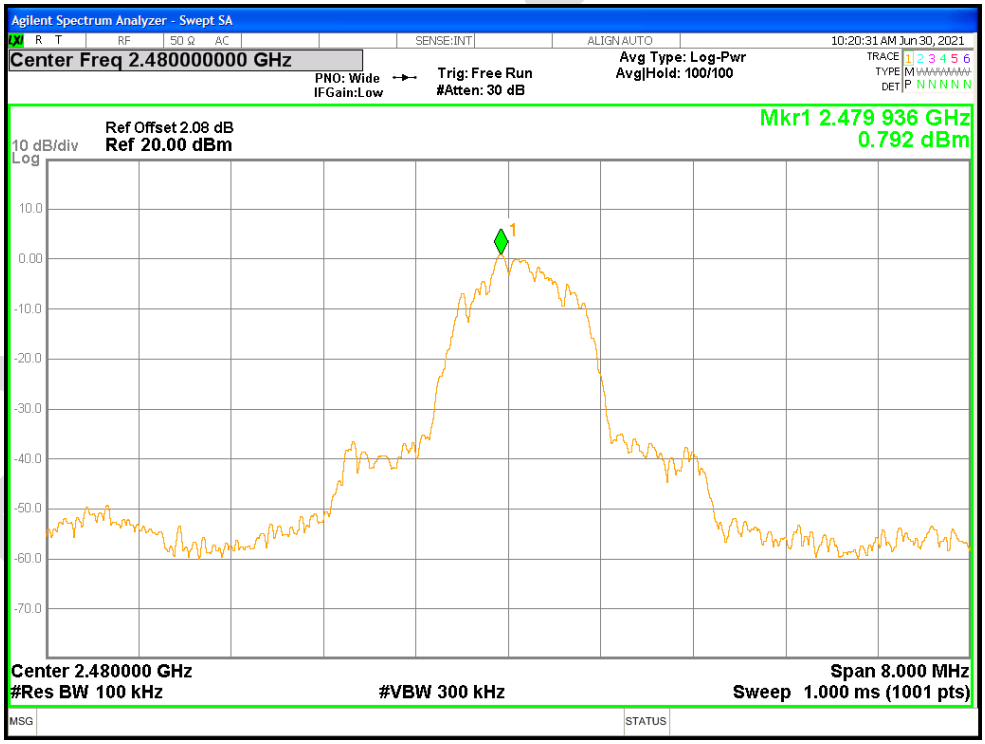
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



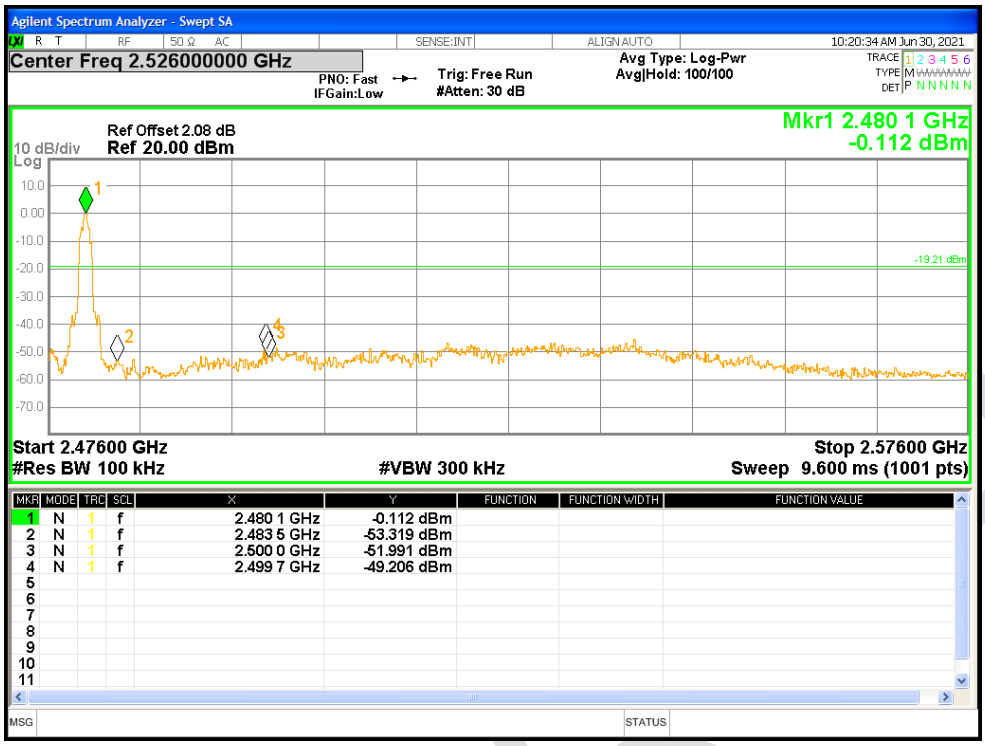
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



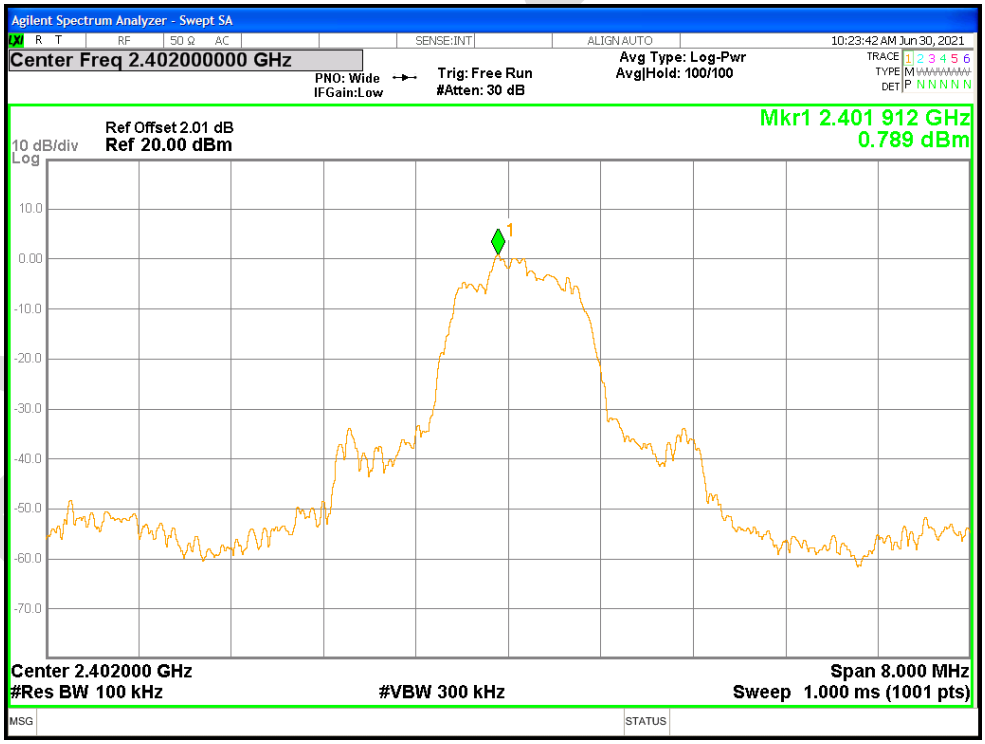
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



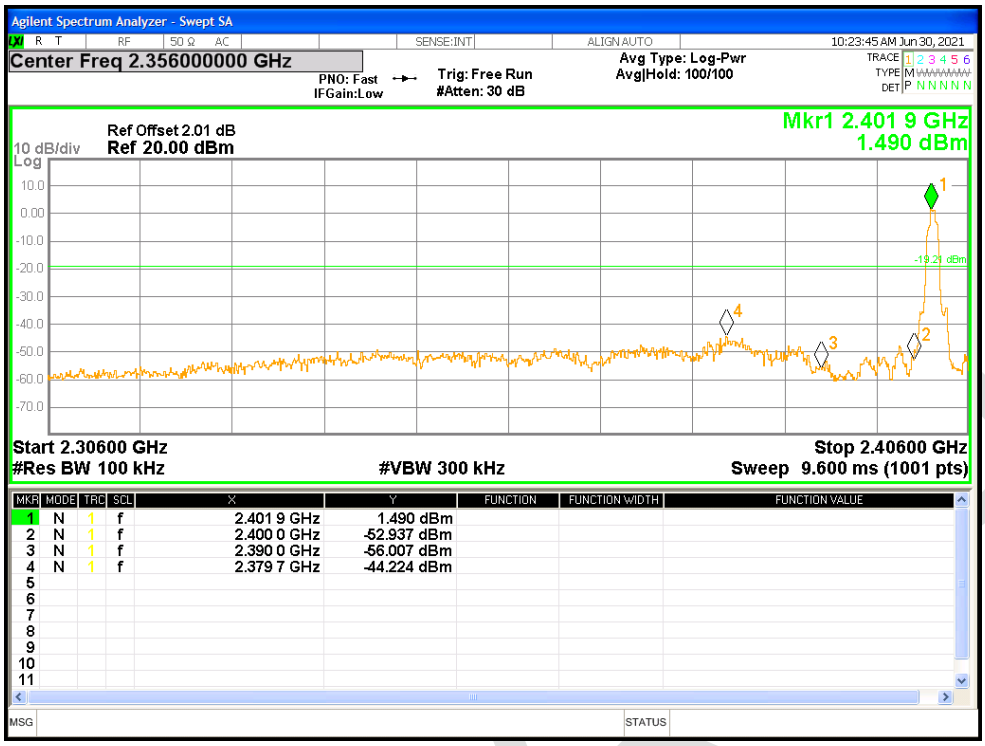
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



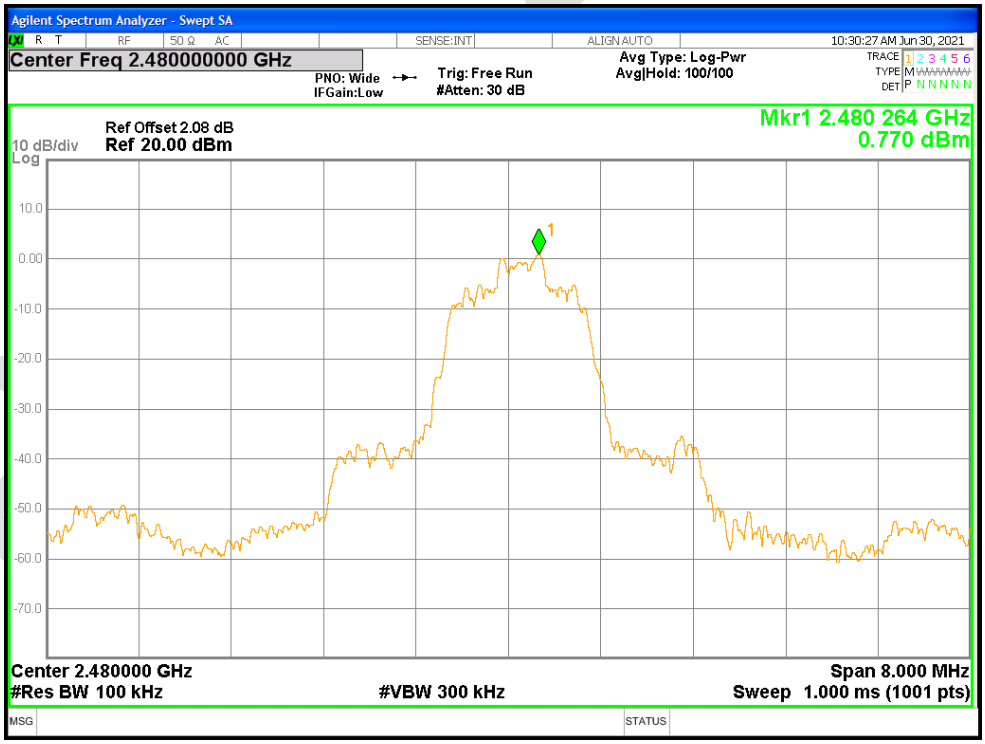
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



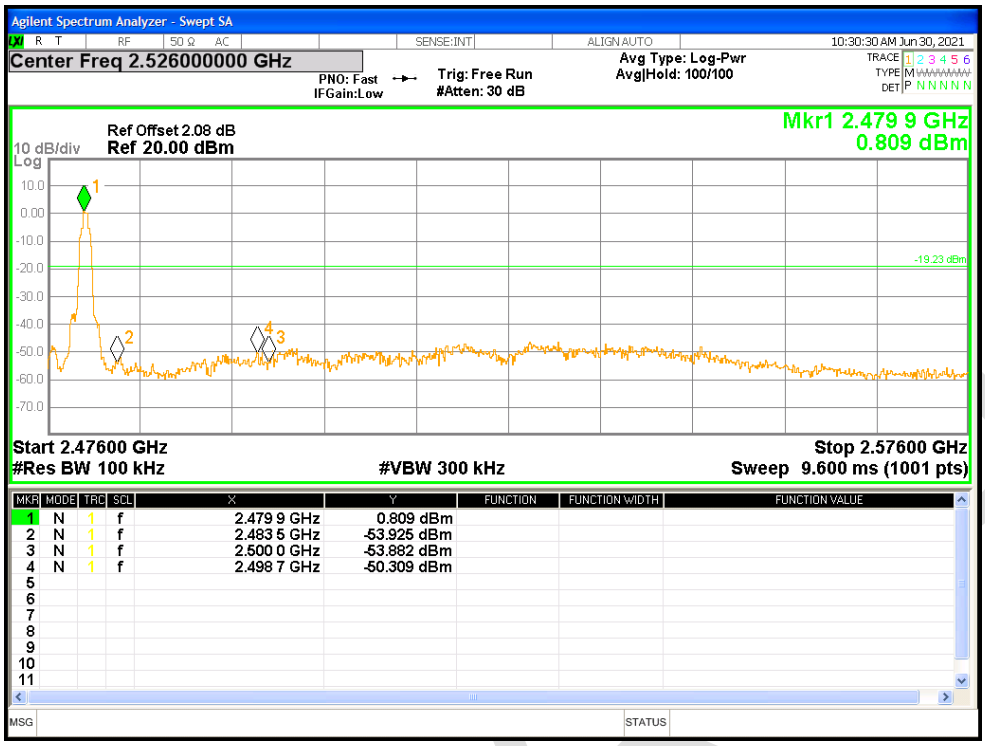
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



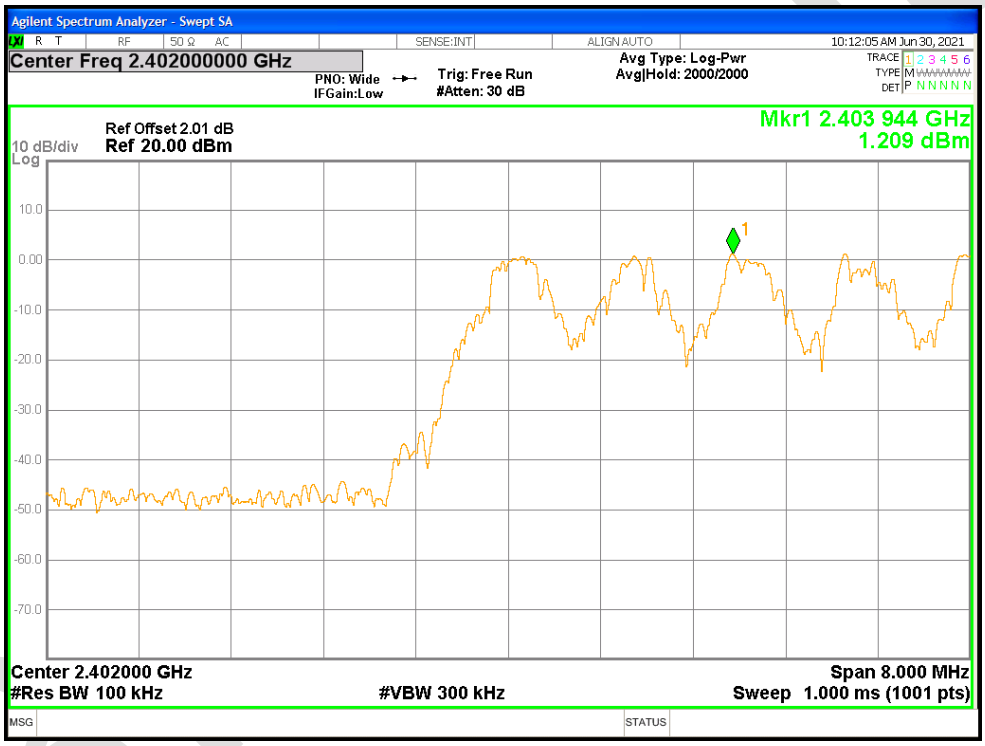
Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.526000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 100/100
10:30:30 AM Jun 30, 2021
Ref Offset 2.08 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 9 GHz
0.809 dBm
-19.23 dBm
Start 2.47600 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.57600 GHz
Sweep 9.600 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.479 9 GHz 0.809 dBm
2 N 1 f 2.483 5 GHz -53.925 dBm
3 N 1 f 2.500 0 GHz -53.882 dBm
4 N 1 f 2.498 7 GHz -50.309 dBm
MSG
STATUS

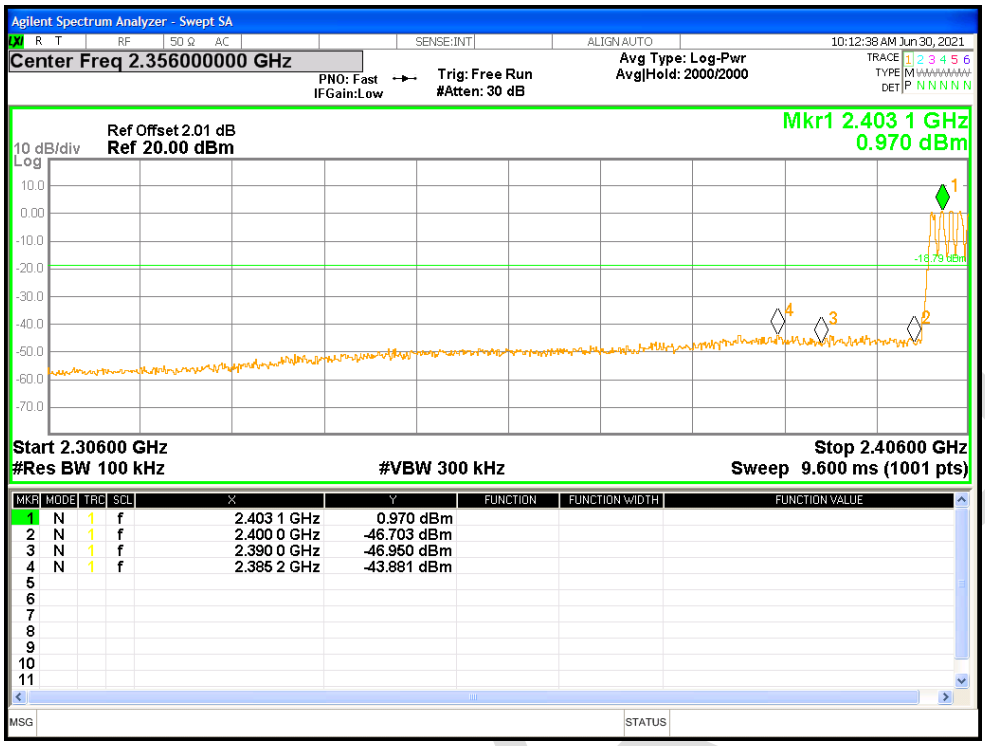
20.5 BAND EDGE(HOPPING)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-45.09	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-45.69	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-45.72	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-46.75	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-45.83	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-45.88	-20	Pass

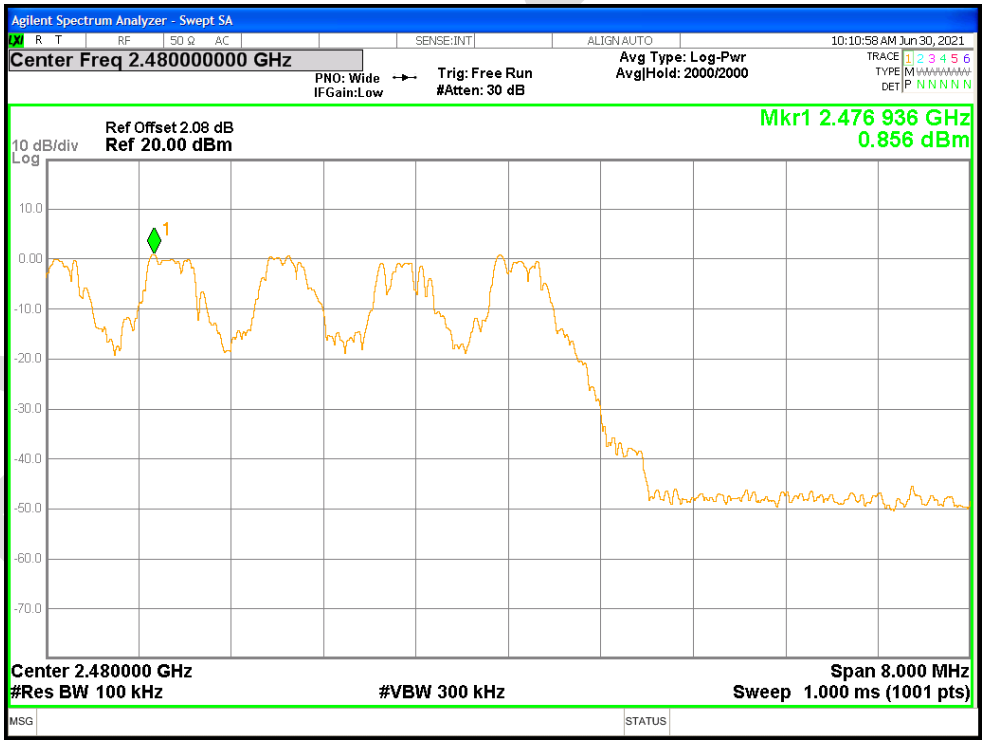
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



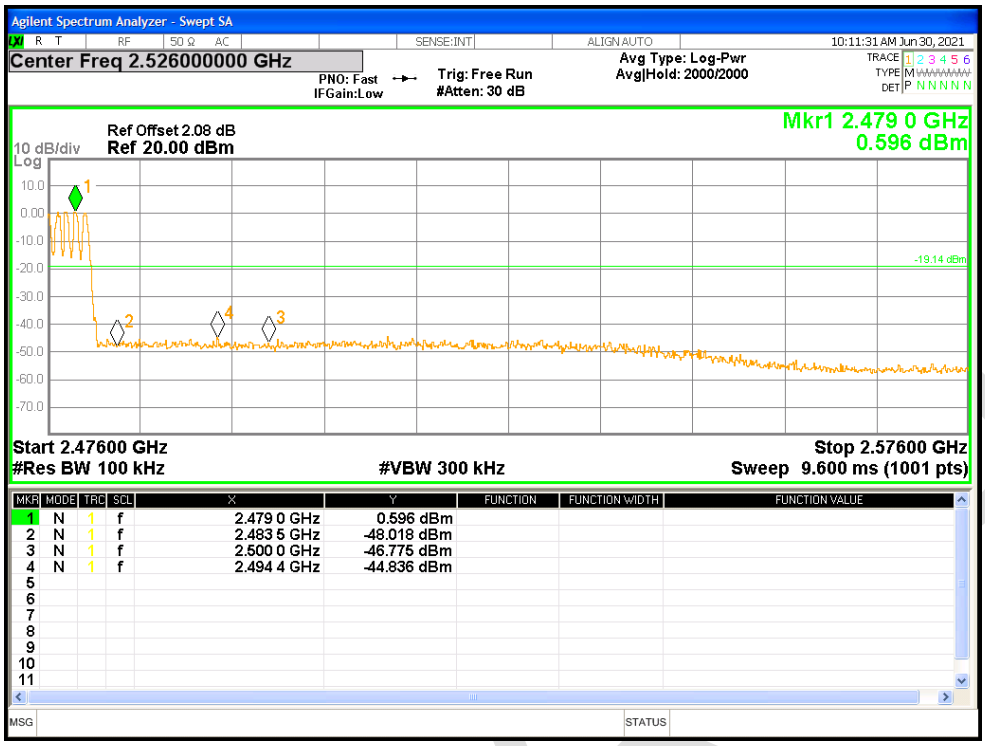
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



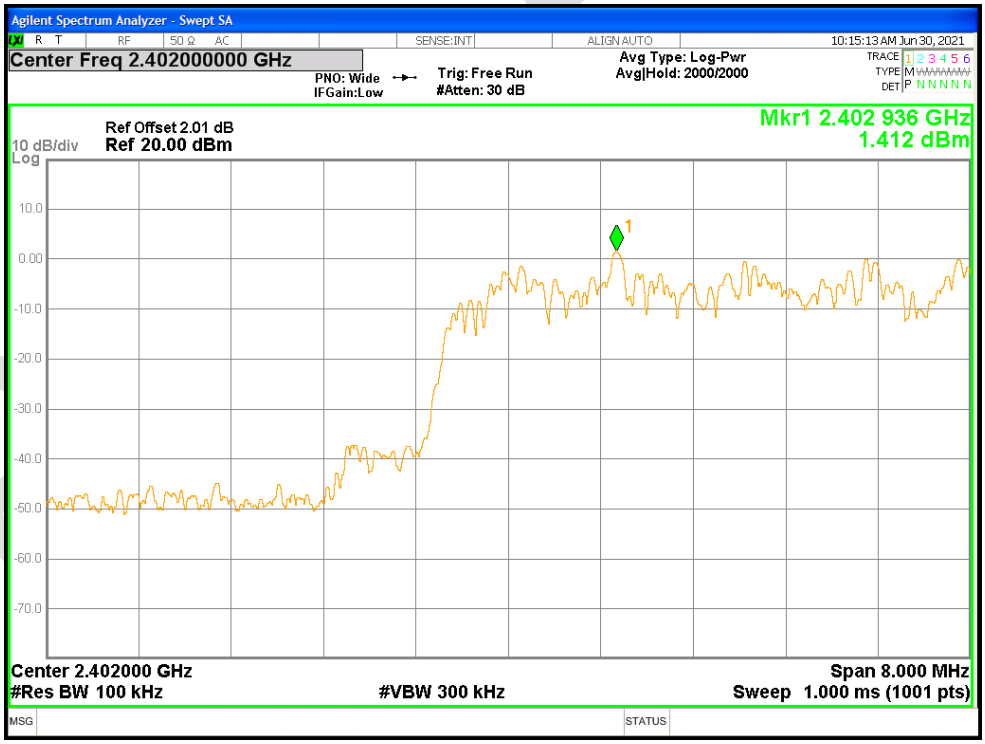
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



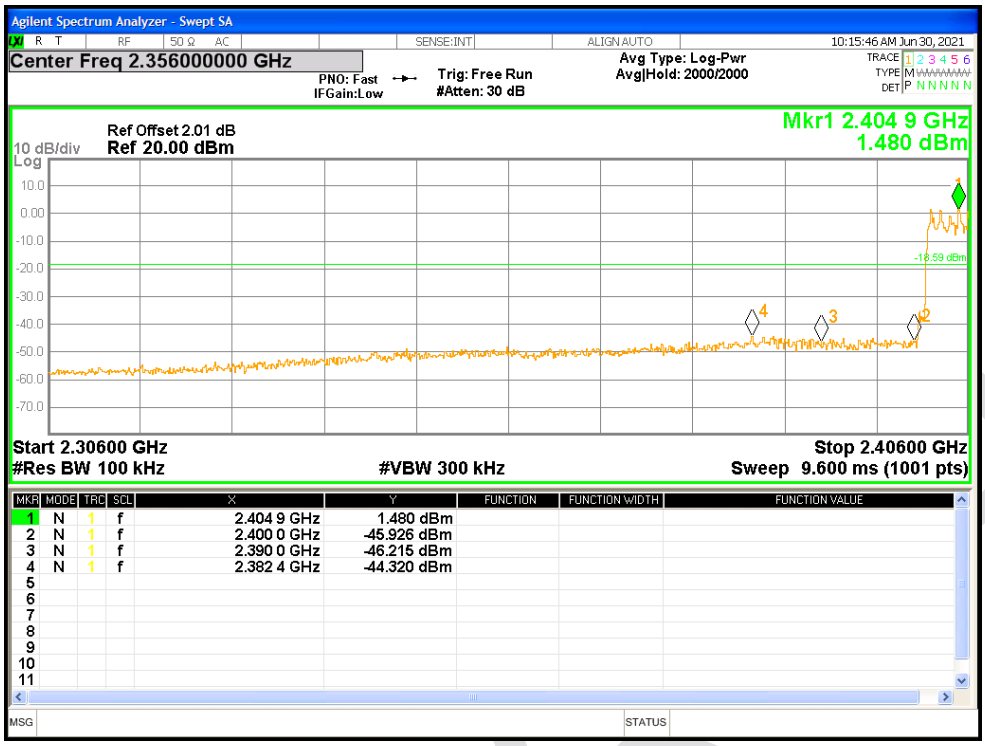
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



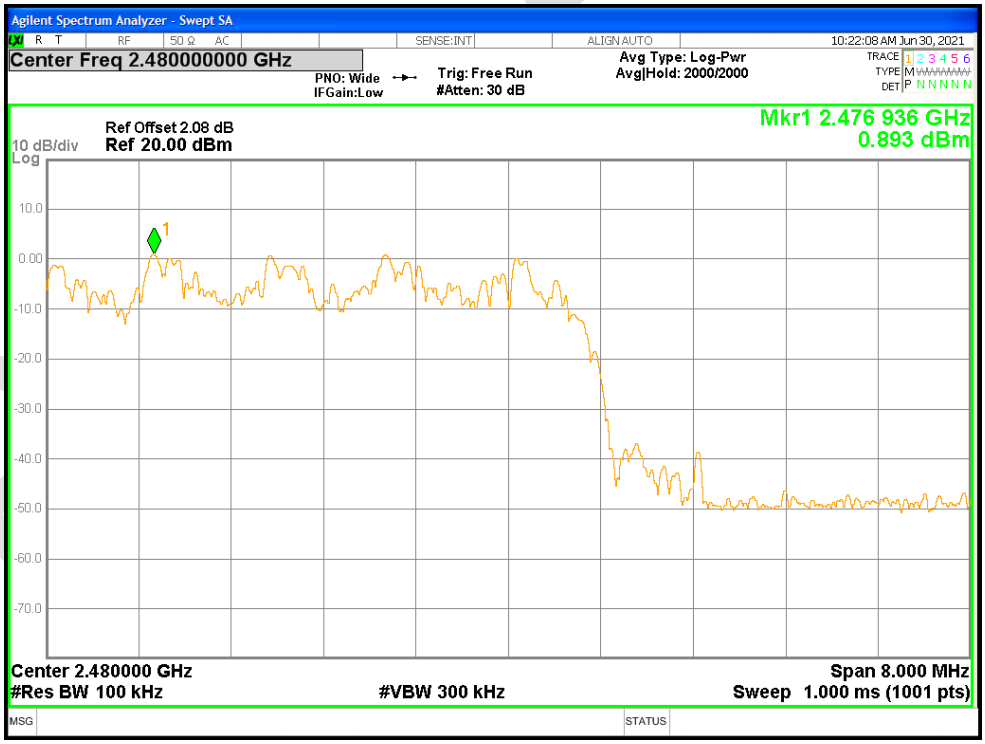
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



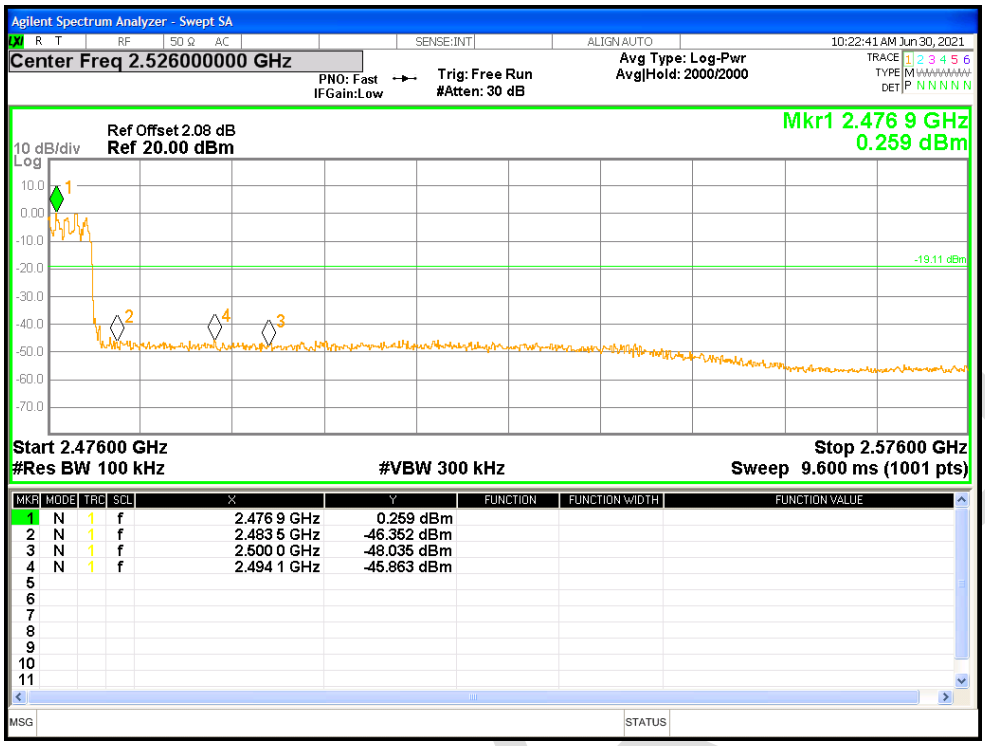
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



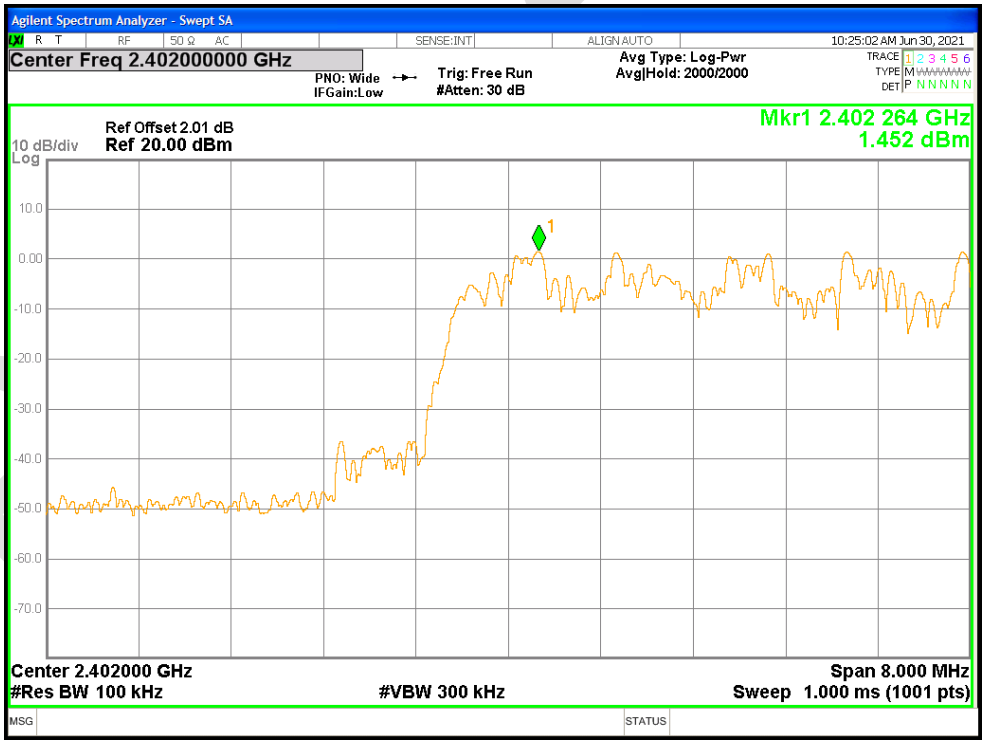
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



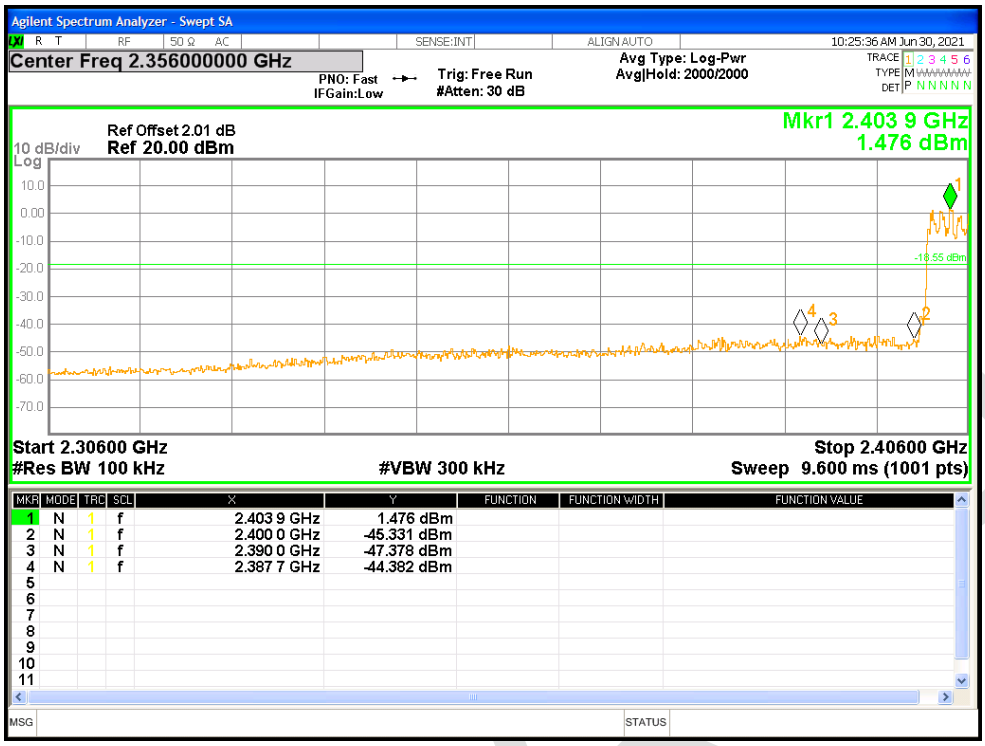
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



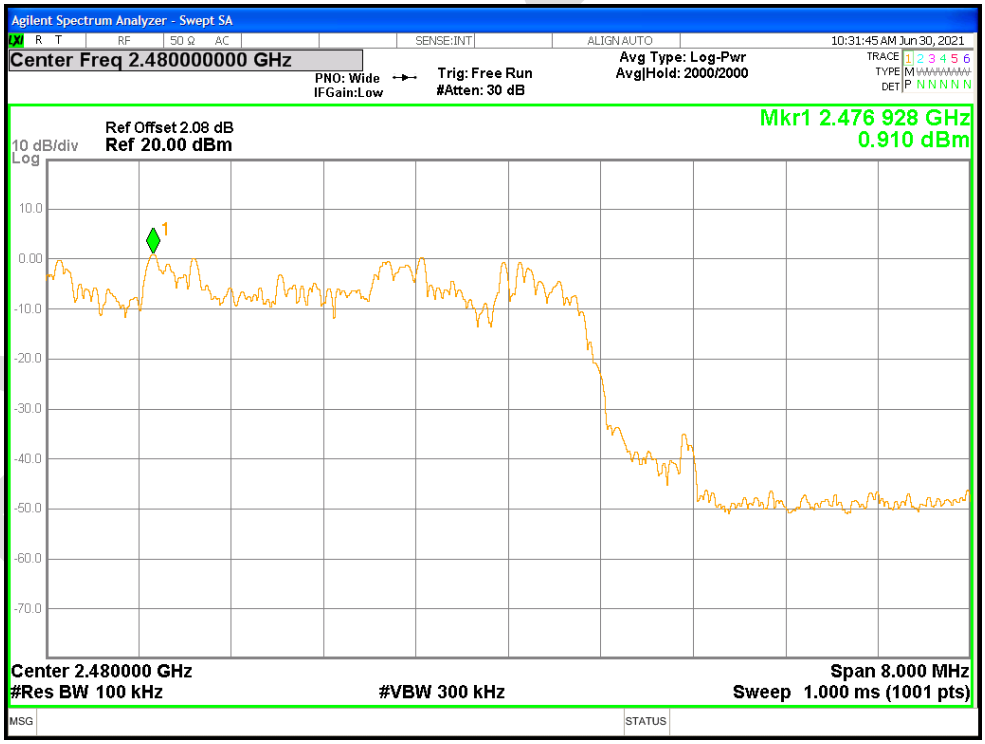
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



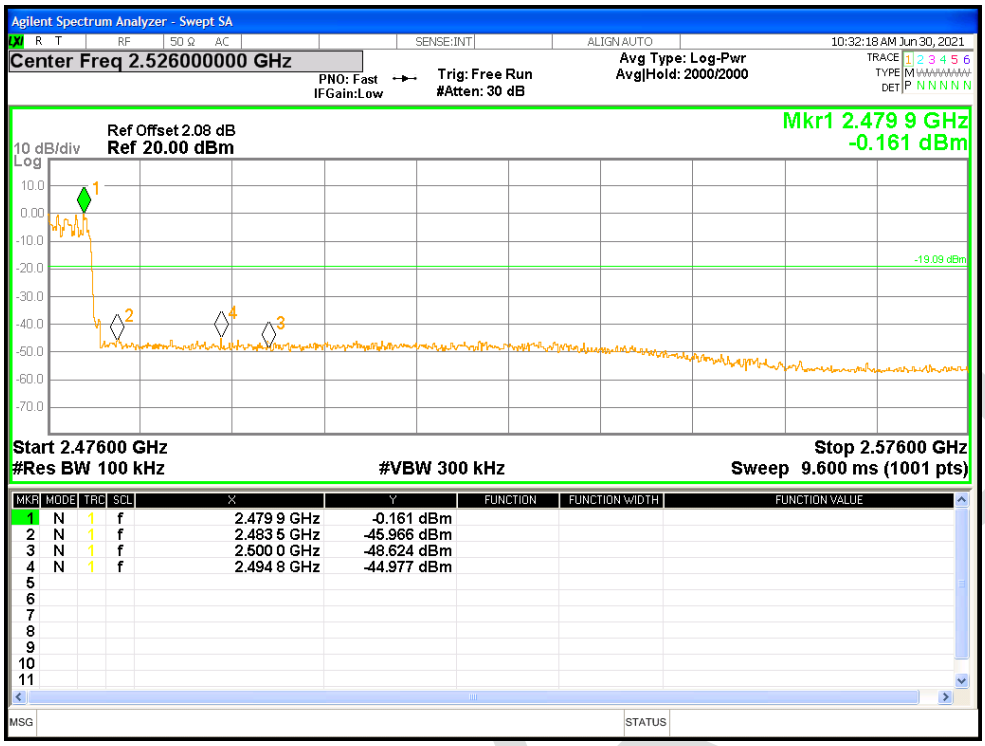
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



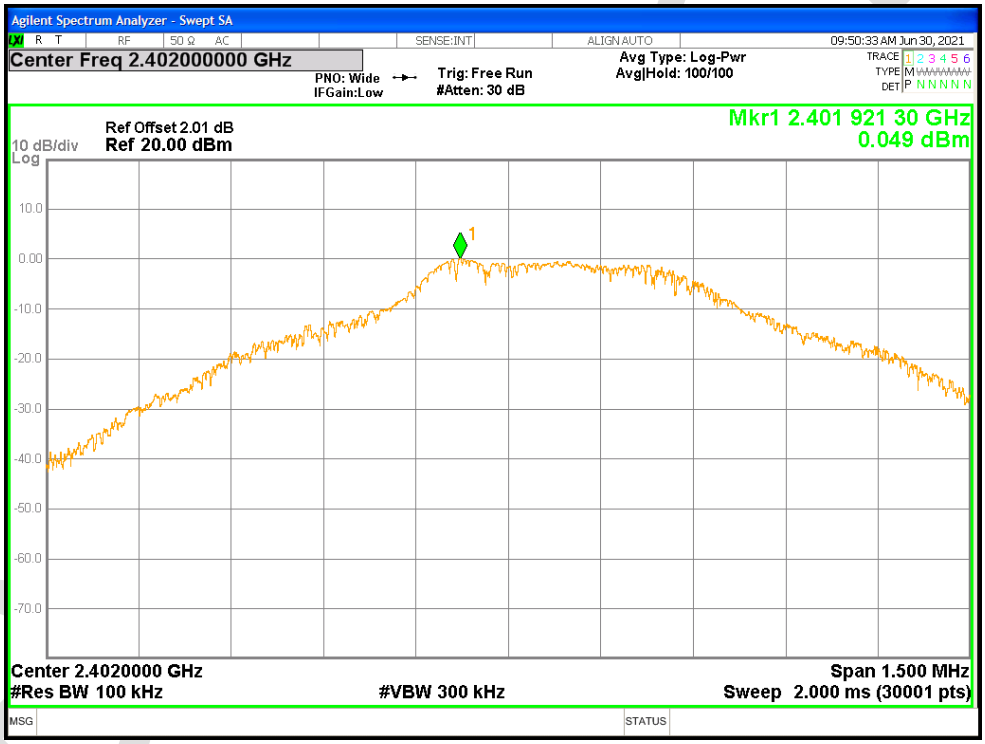
Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.526000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 2000/2000
10:32:18 AM Jun 30, 2021
Ref Offset 2.08 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 9 GHz
-0.161 dBm
-19.09 dBm
Start 2.47600 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.57600 GHz
Sweep 9.600 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.479 9 GHz -0.161 dBm
2 N 1 f 2.483 5 GHz -45.966 dBm
3 N 1 f 2.500 0 GHz -48.624 dBm
4 N 1 f 2.494 8 GHz -44.977 dBm
MSG
STATUS

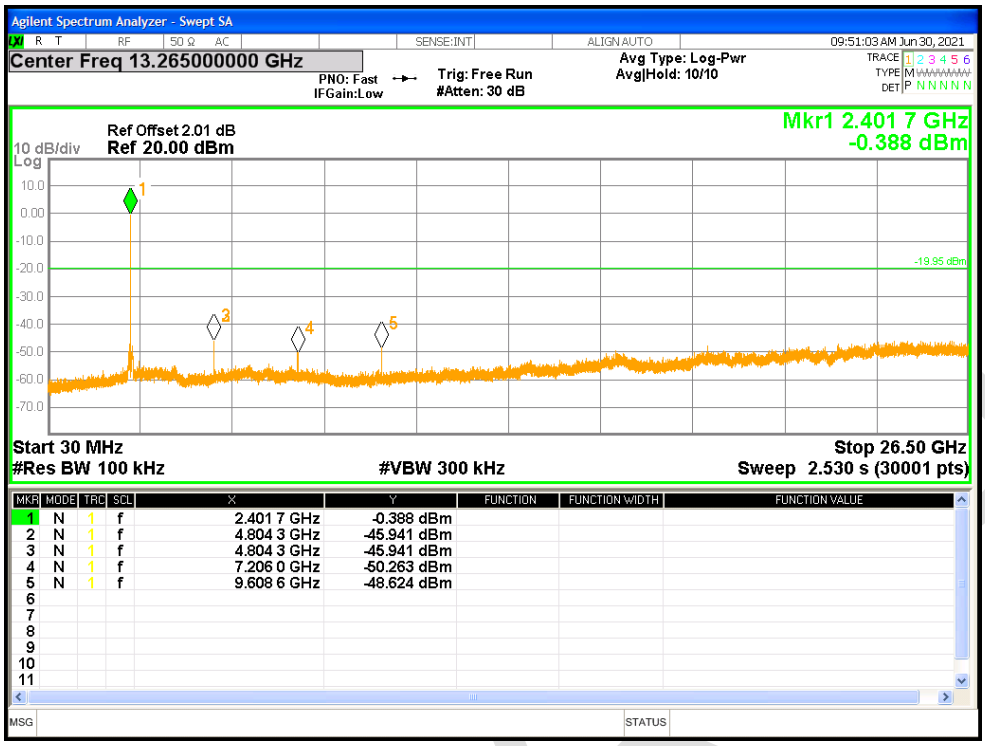
20.6 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-45.99	-20	Pass
NVNT	1-DH1	2441	Ant1	-45.64	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.22	-20	Pass
NVNT	2-DH1	2402	Ant1	-47.4	-20	Pass
NVNT	2-DH1	2441	Ant1	-45.31	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.56	-20	Pass
NVNT	3-DH1	2402	Ant1	-47.28	-20	Pass
NVNT	3-DH1	2441	Ant1	-45.94	-20	Pass
NVNT	3-DH1	2480	Ant1	-46.37	-20	Pass

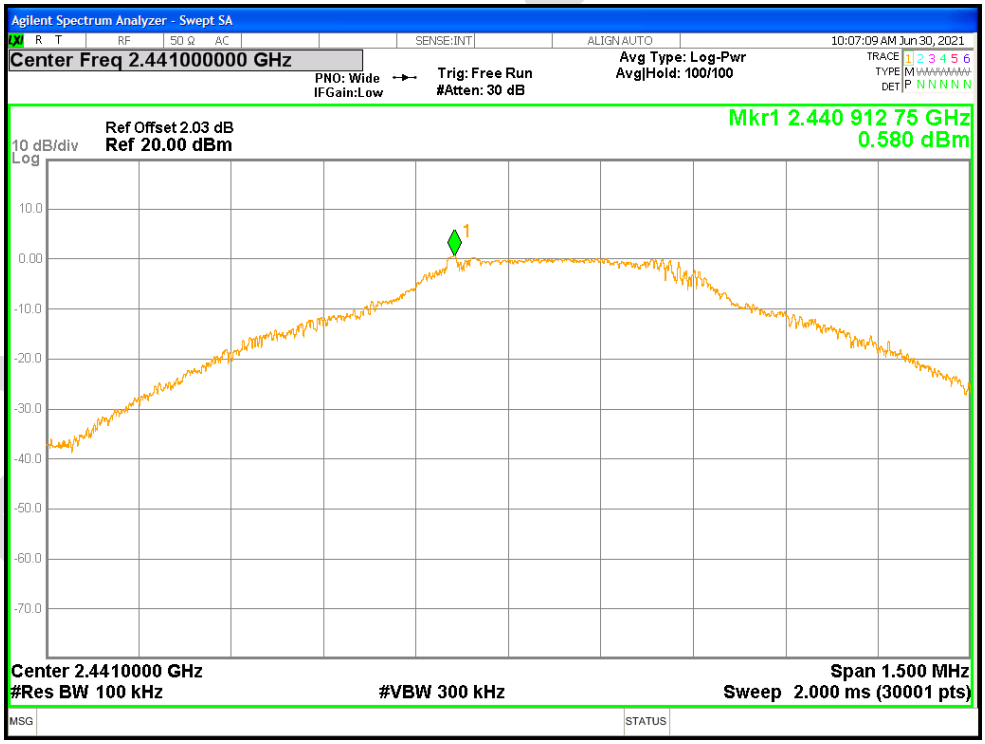
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



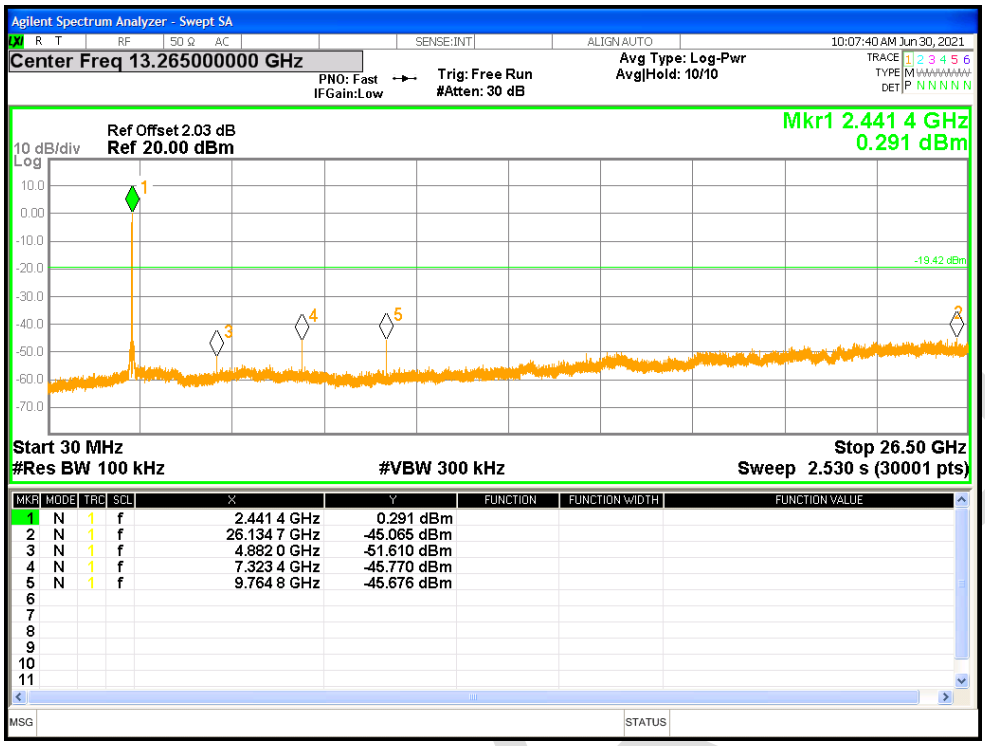
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



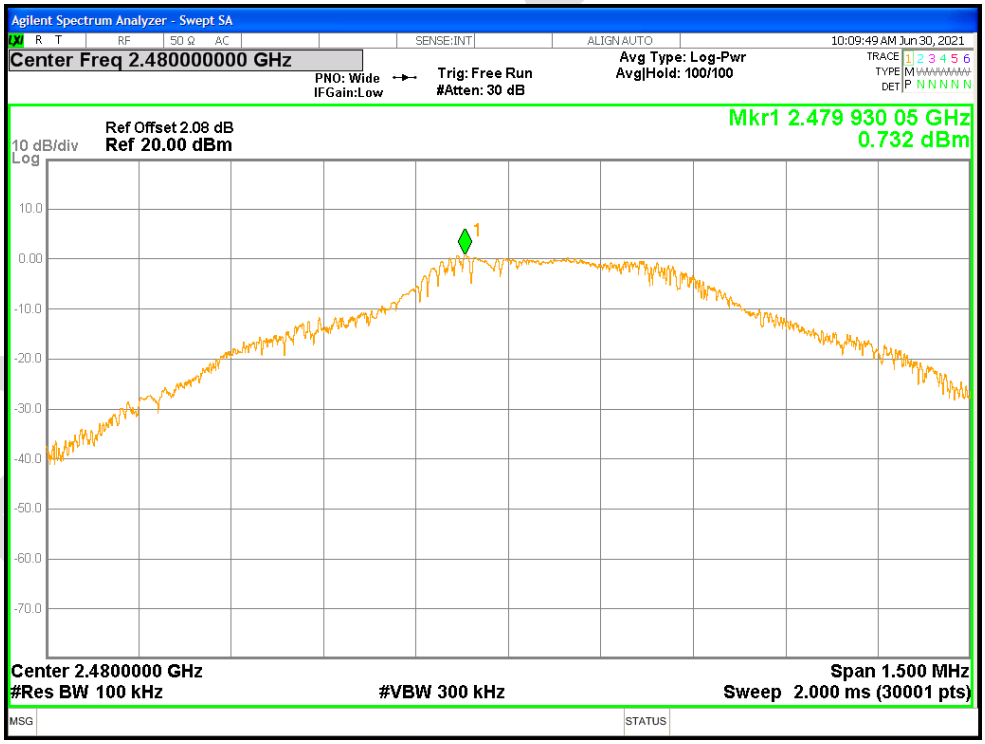
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



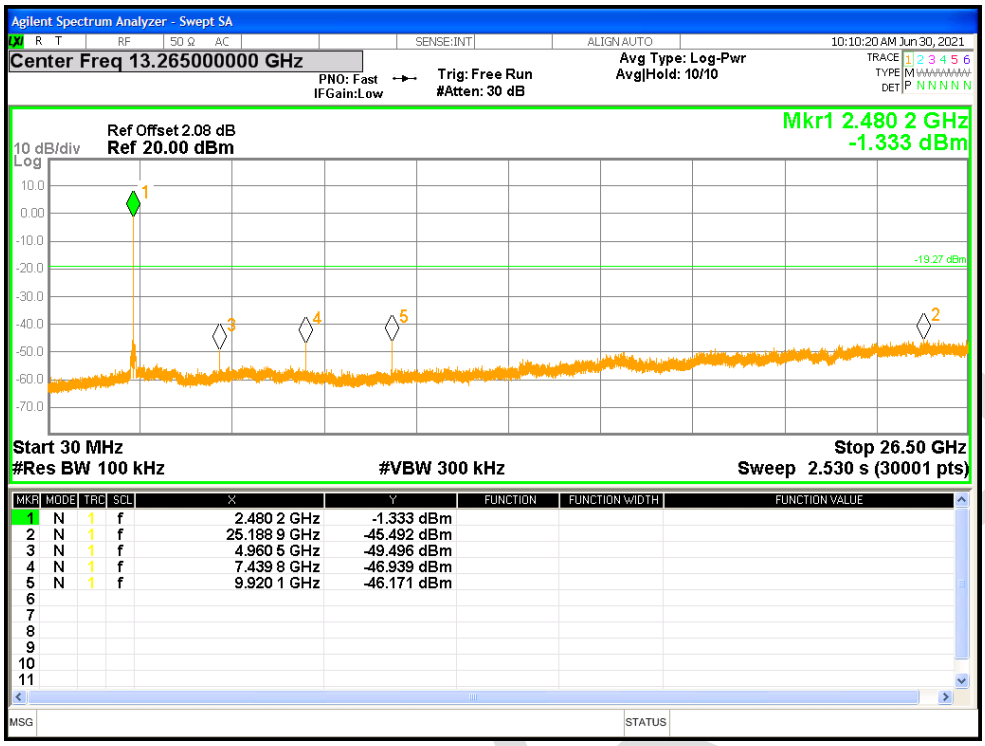
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



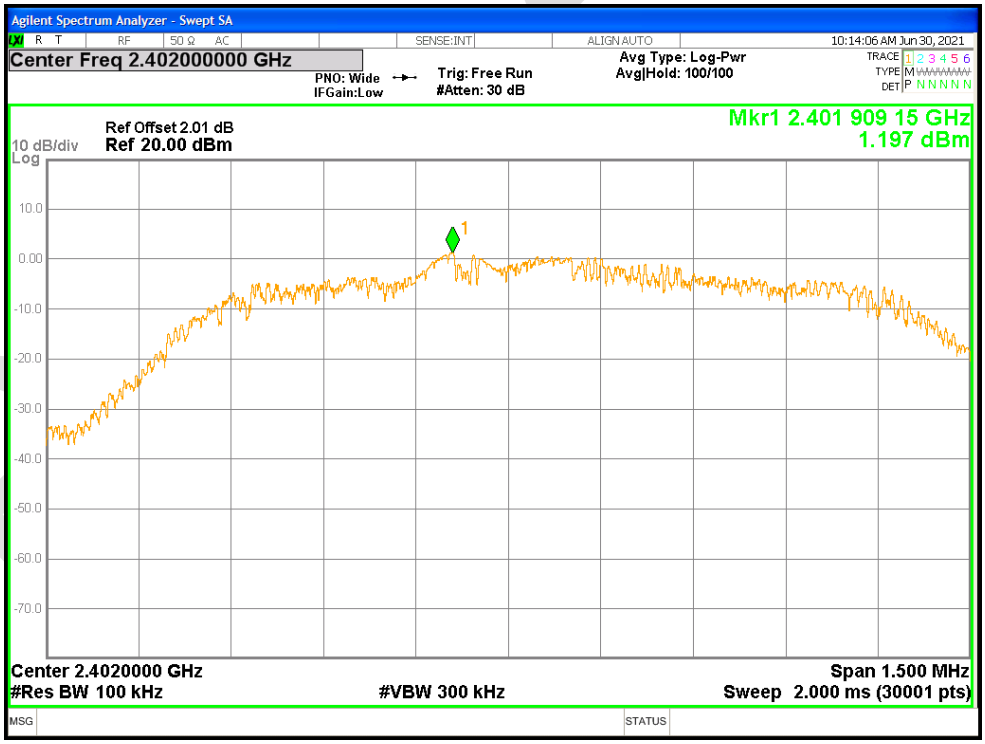
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



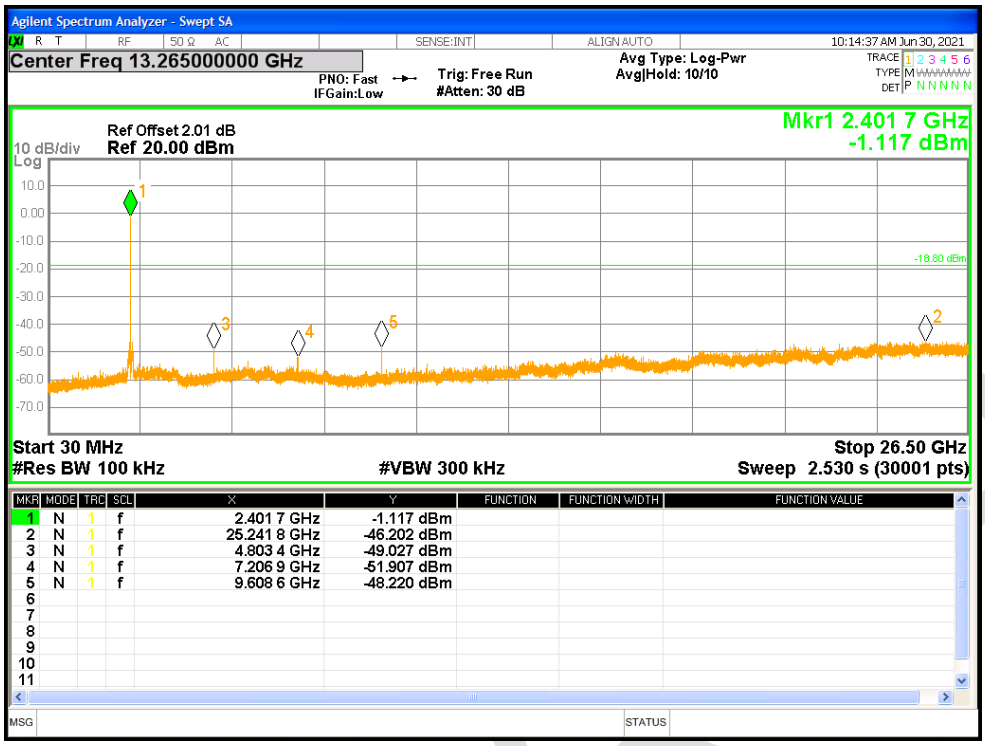
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



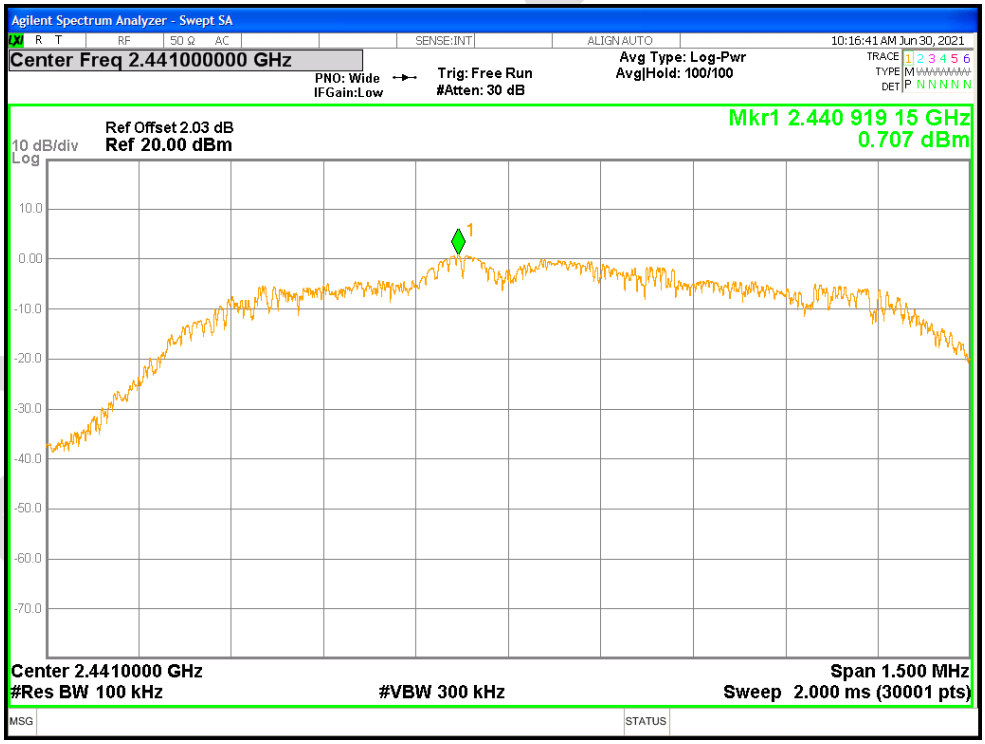
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



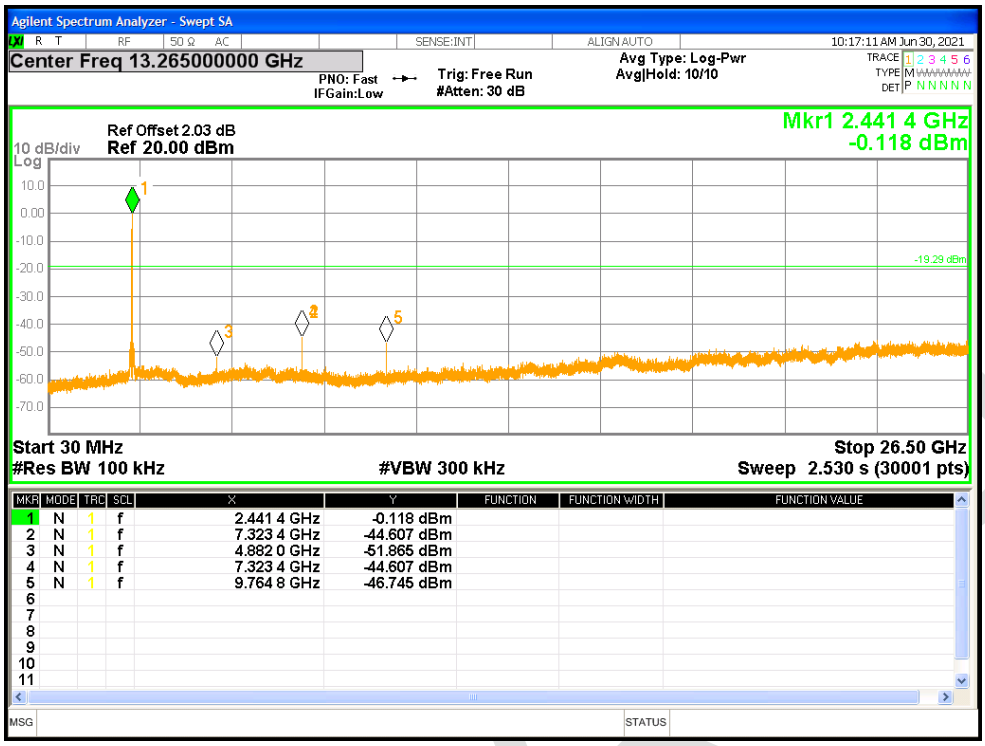
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



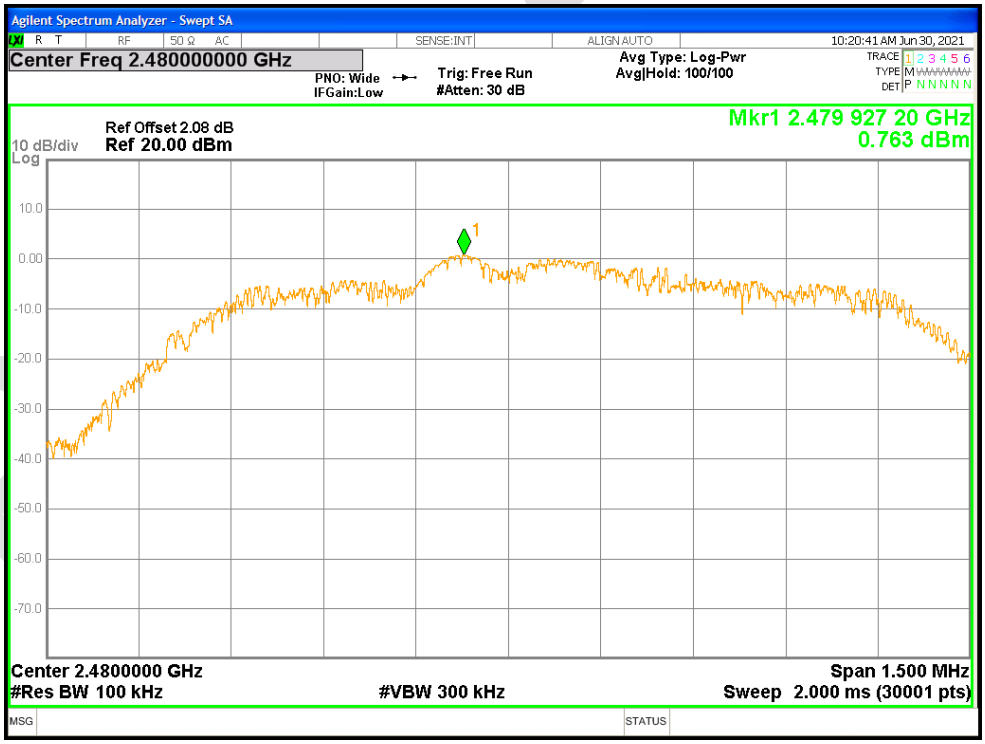
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



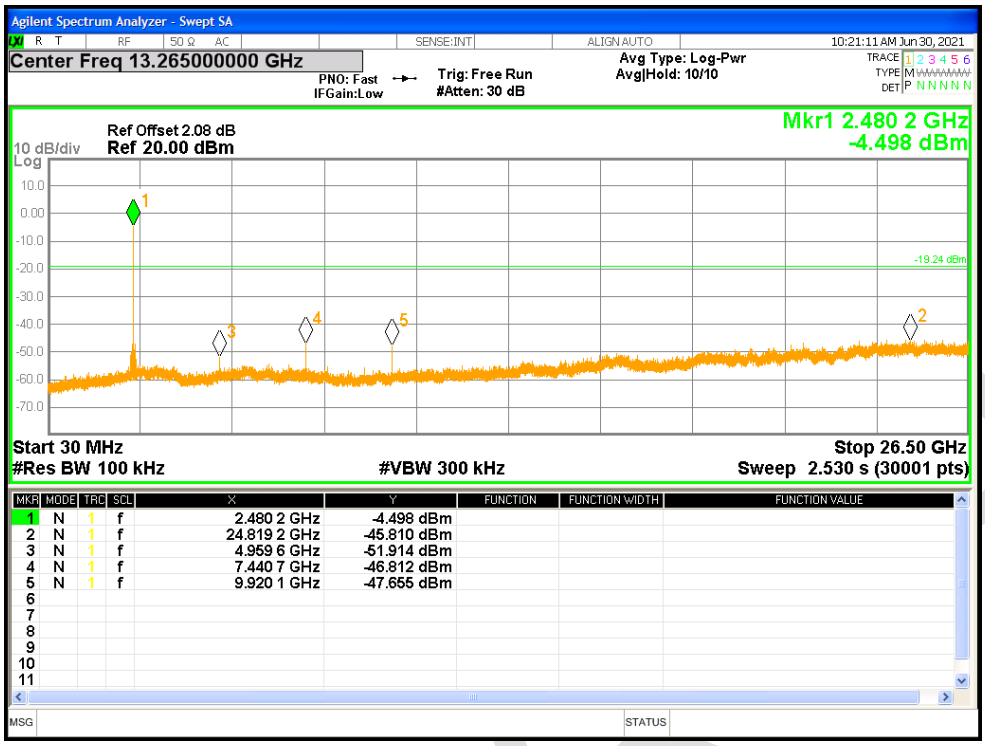
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



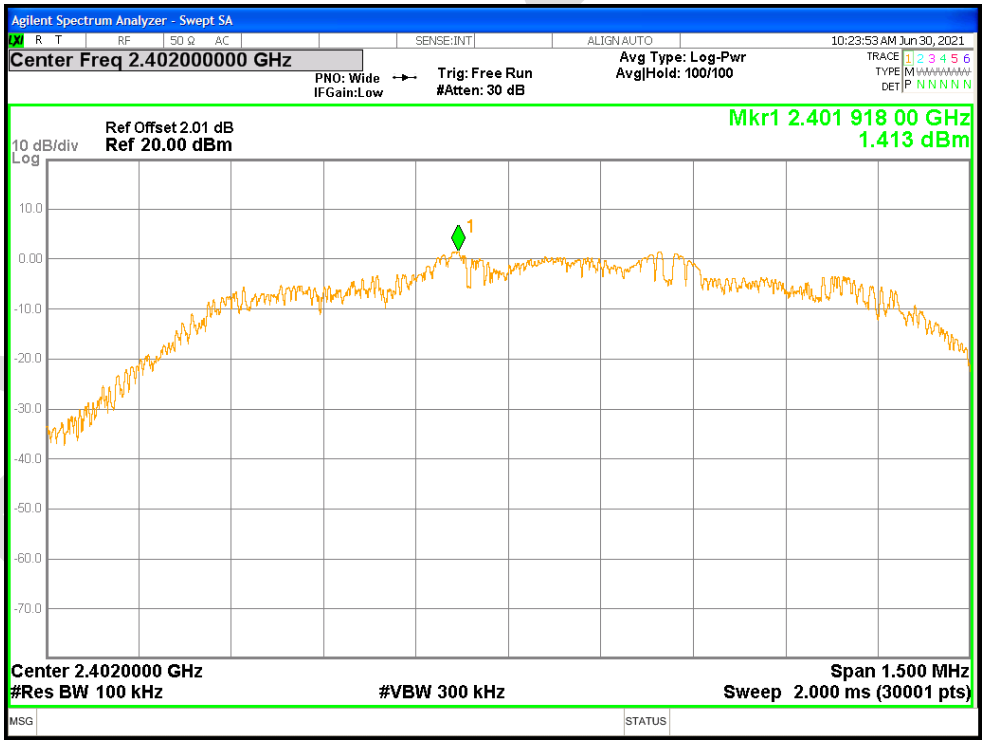
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



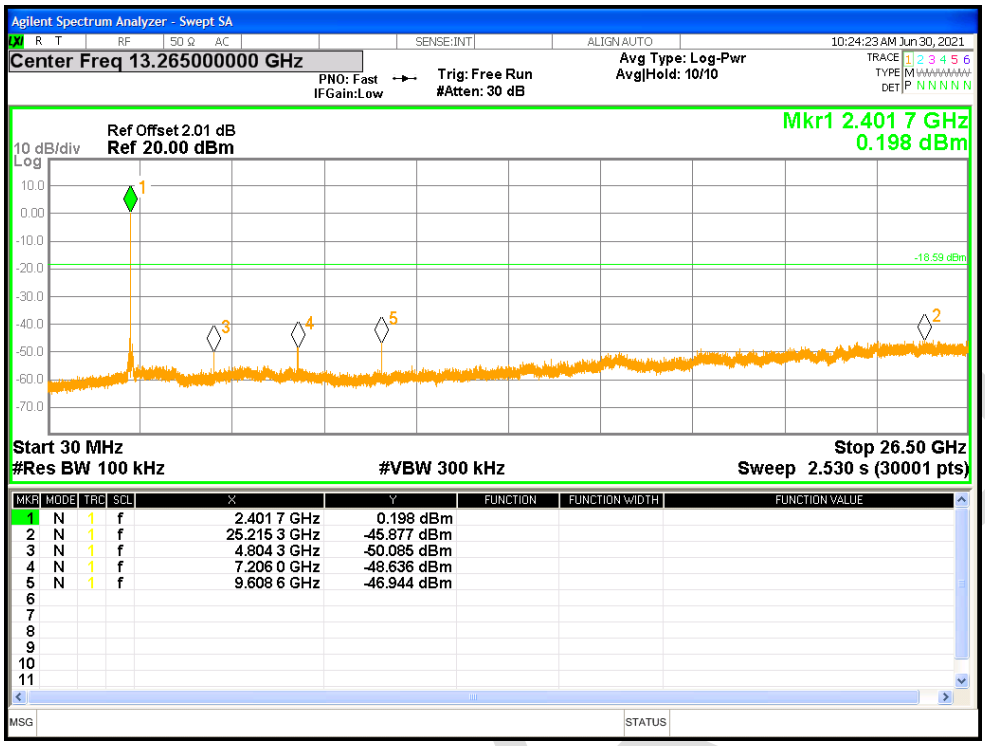
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



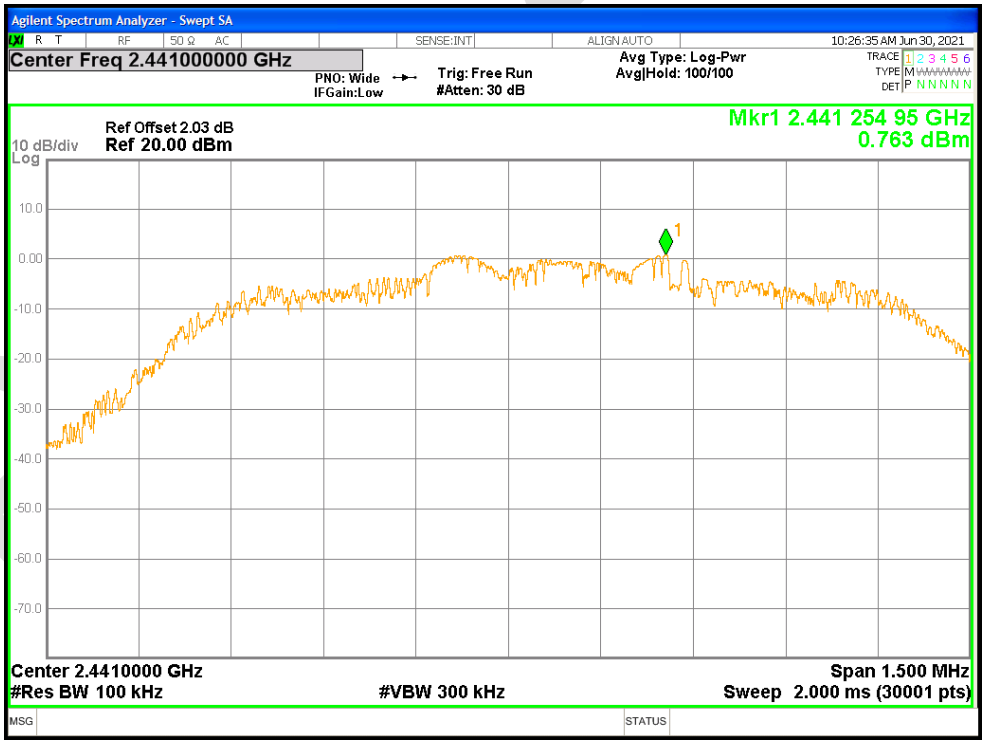
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



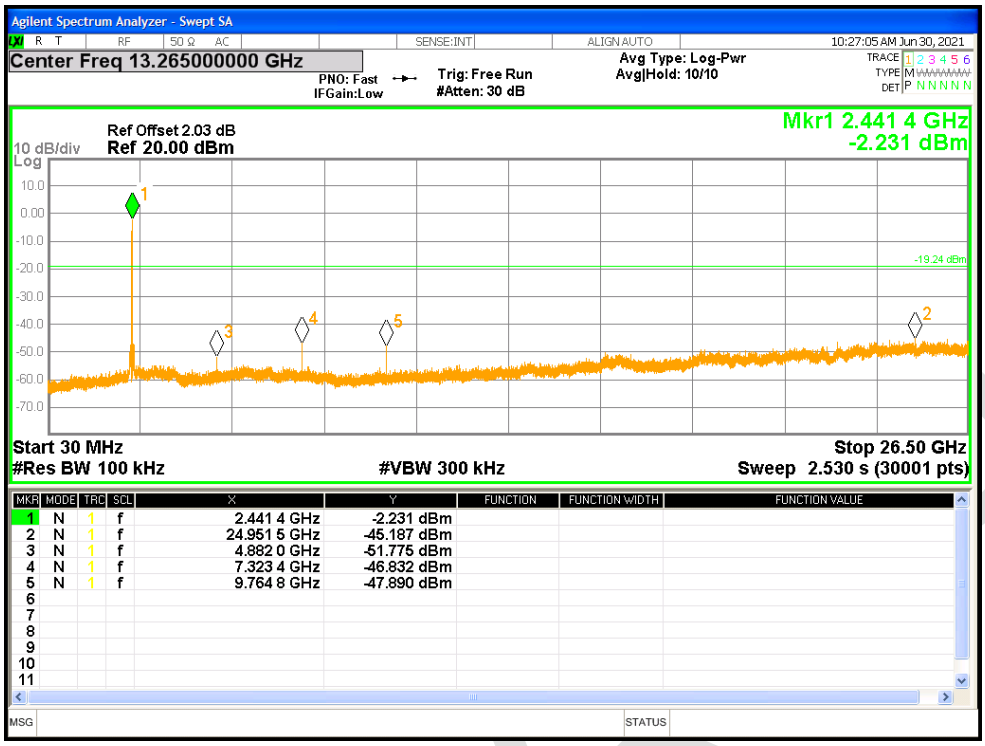
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



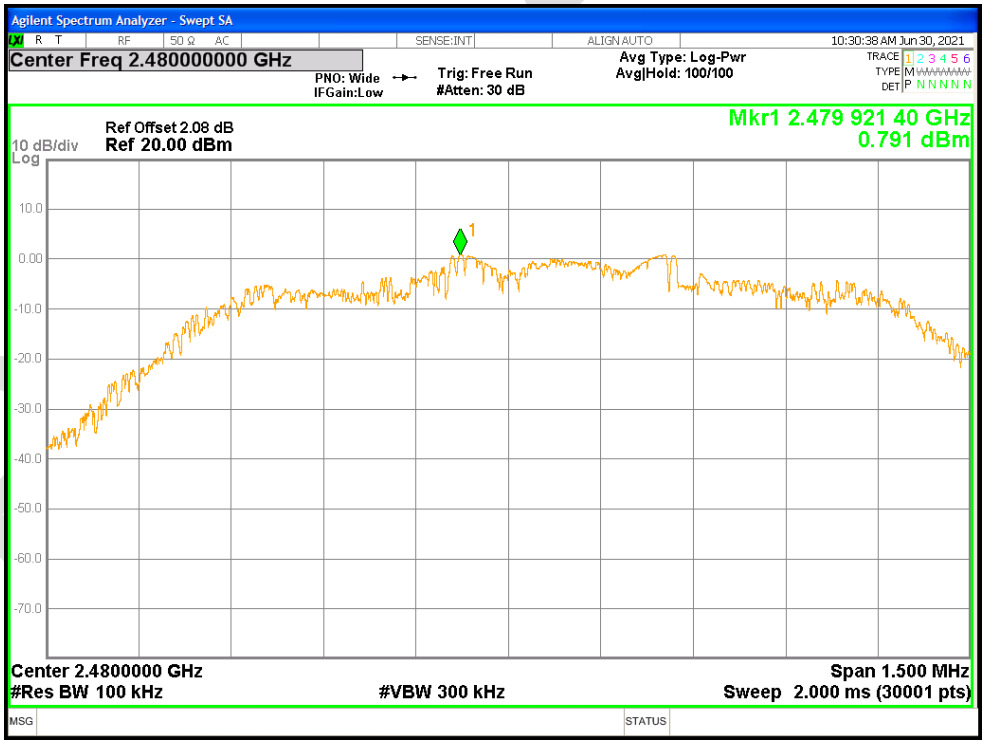
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



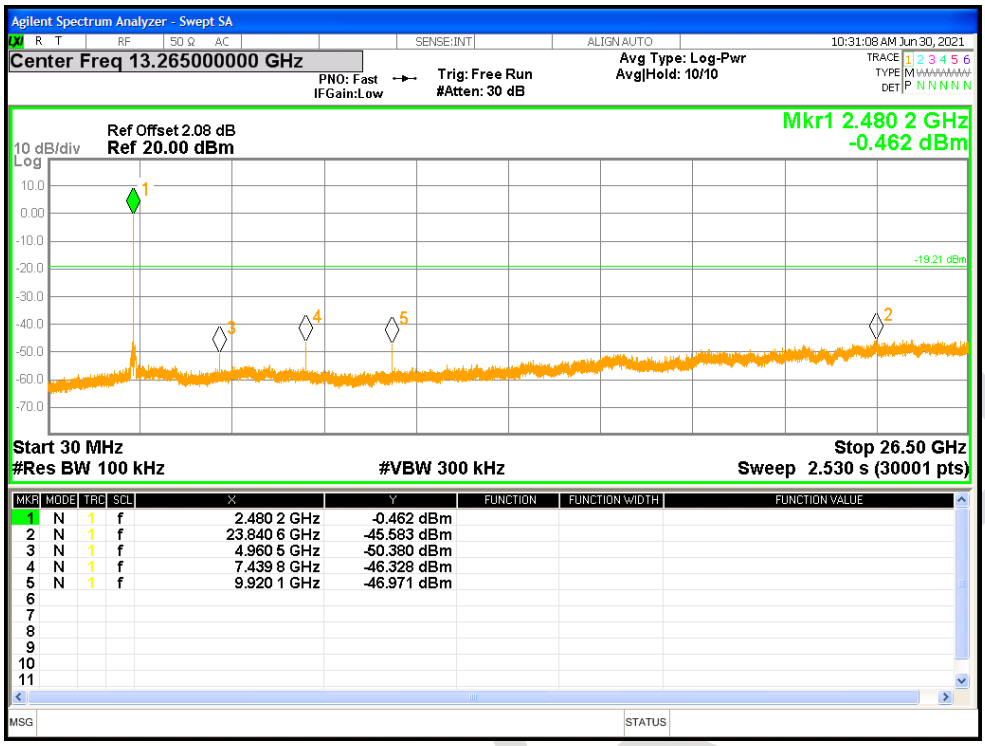
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



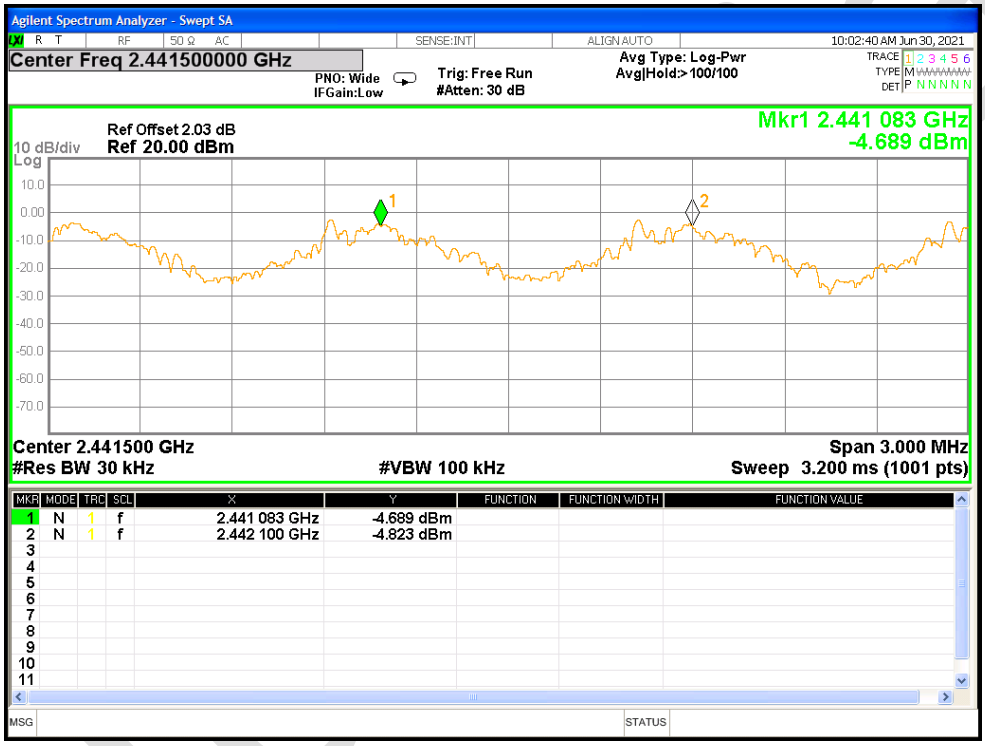
Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.265000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
10:31:08 AM Jun 30, 2021
Ref Offset 2.08 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.480 2 GHz
-0.462 dBm
-19.21 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.530 s (30001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.480 2 GHz -0.462 dBm
2 N 1 f 23.840 6 GHz -45.583 dBm
3 N 1 f 4.960 5 GHz -50.380 dBm
4 N 1 f 7.439 8 GHz -46.328 dBm
5 N 1 f 9.920 1 GHz -46.971 dBm
MSG
STATUS

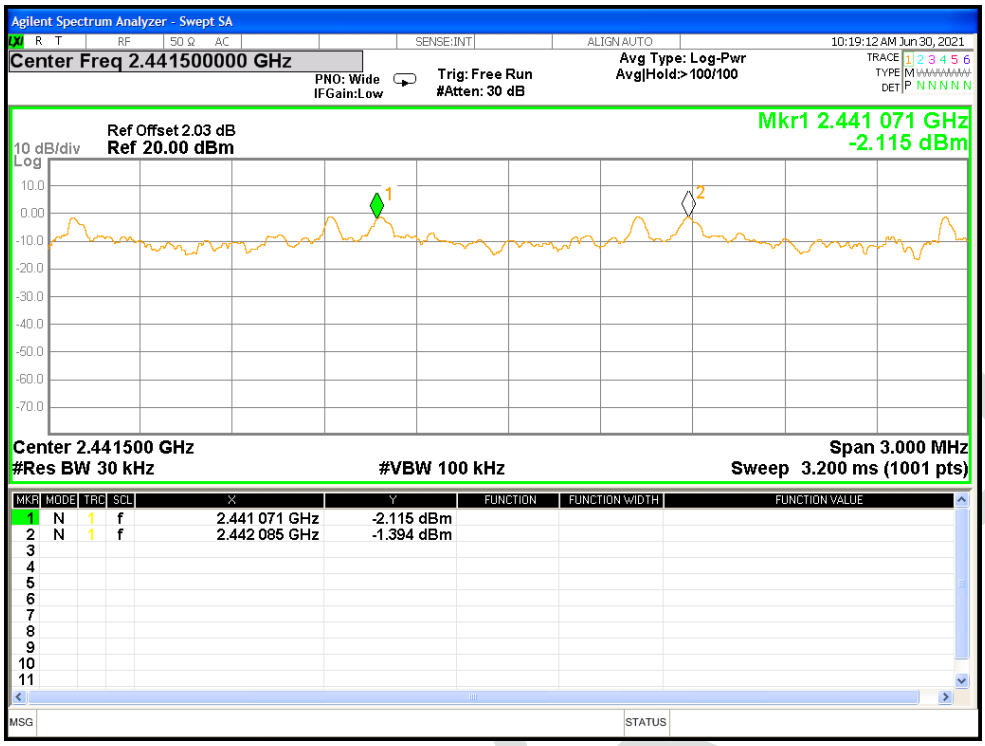
20.7 CARRIER FREQUENCIES SEPARATION

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.083	2442.1	1.017	0.025	Pass
NVNT	2-DH1	Ant1	2441.071	2442.085	1.014	0.83	Pass
NVNT	3-DH1	Ant1	2441.0755	2442.031	0.9555	0.811	Pass

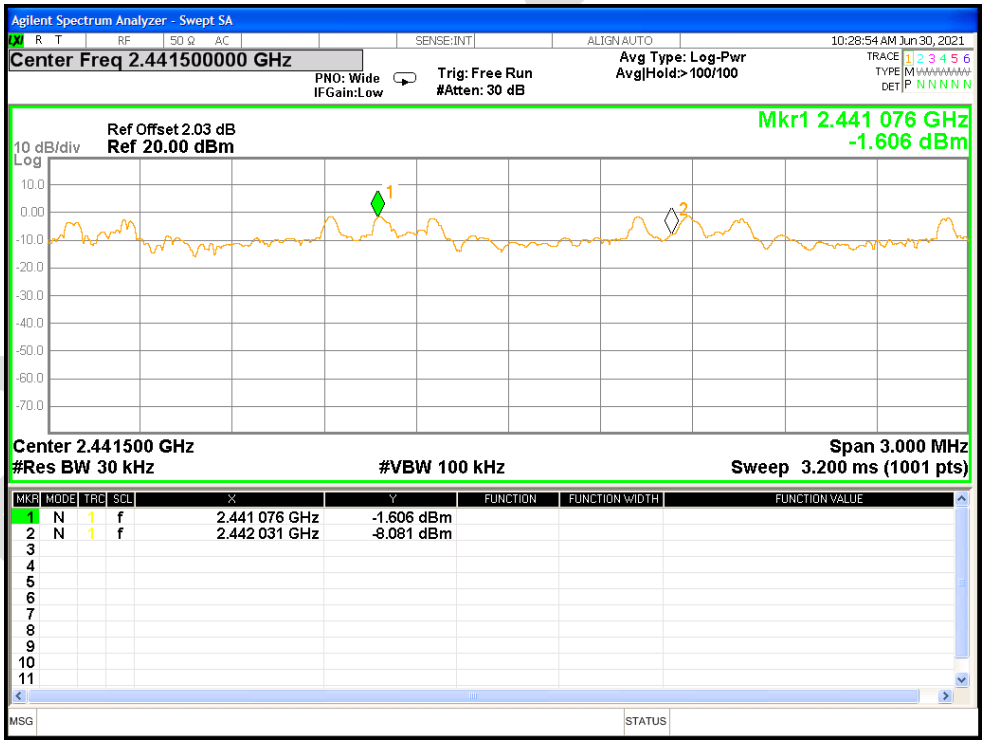
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



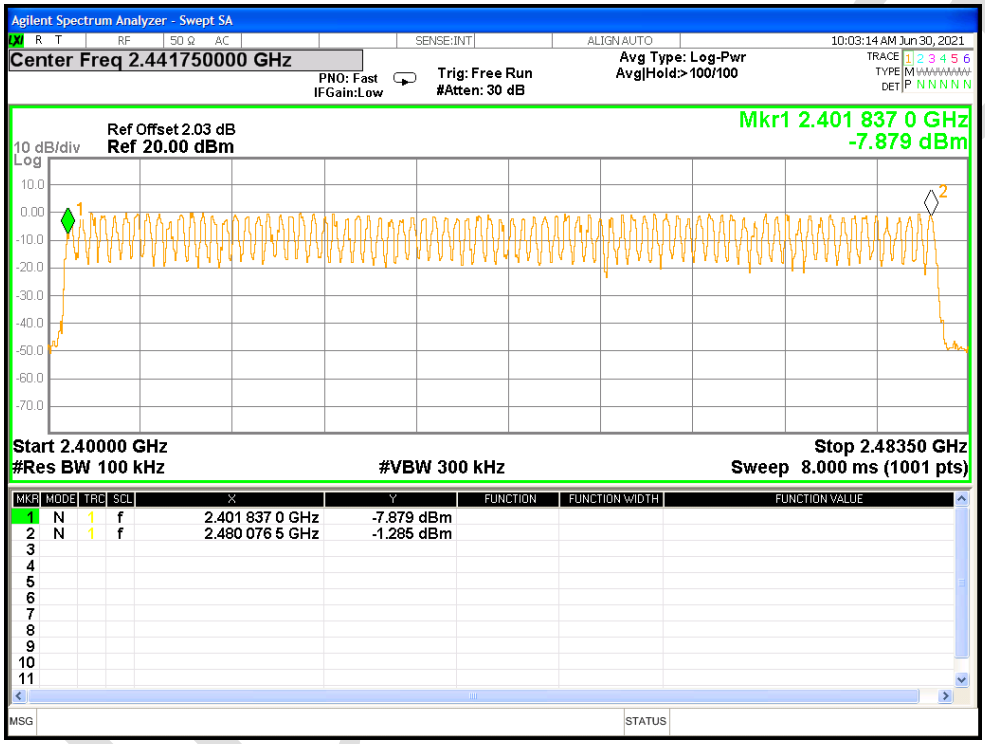
CFS NVNT 3-DH1 2441MHz Ant1



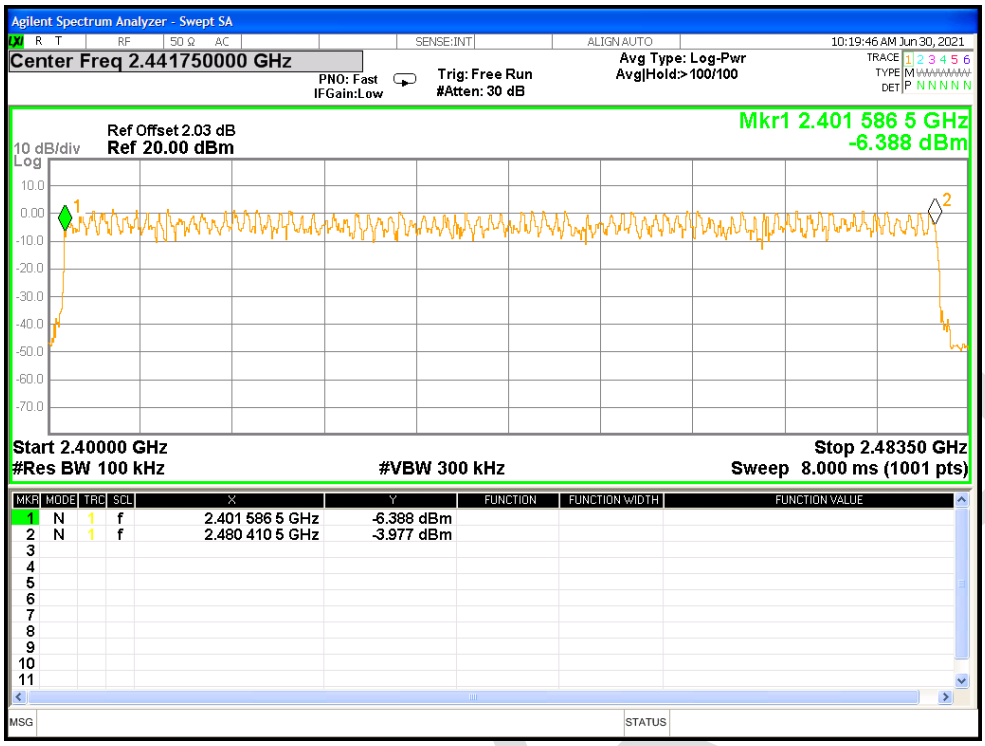
20.8 NUMBER OF HOPPING CHANNEL

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

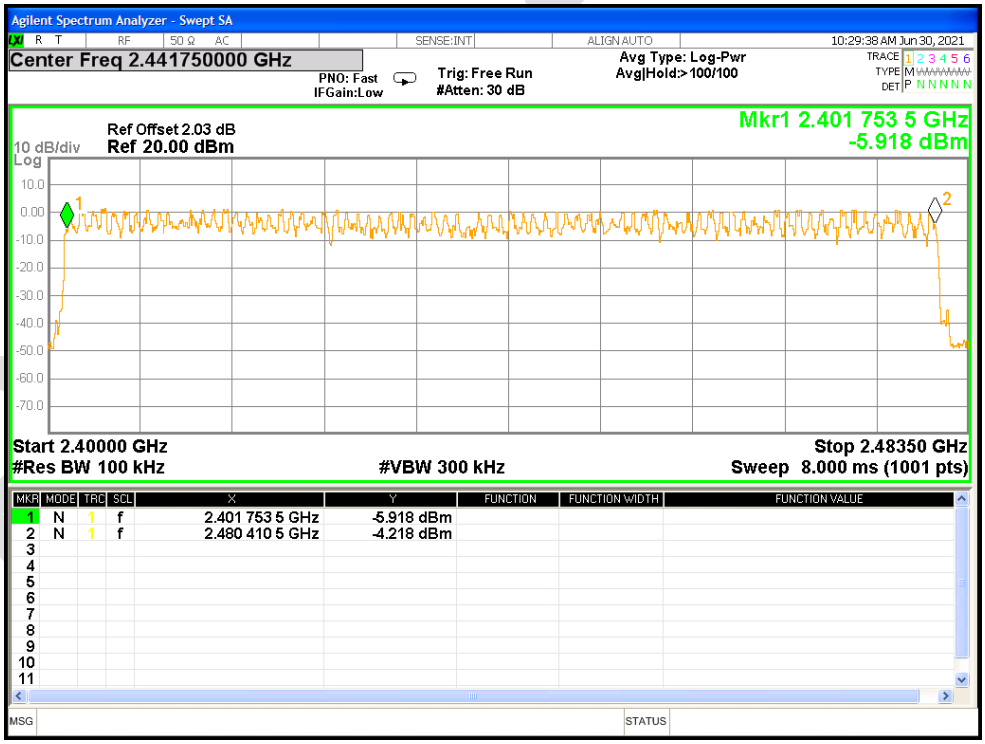
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

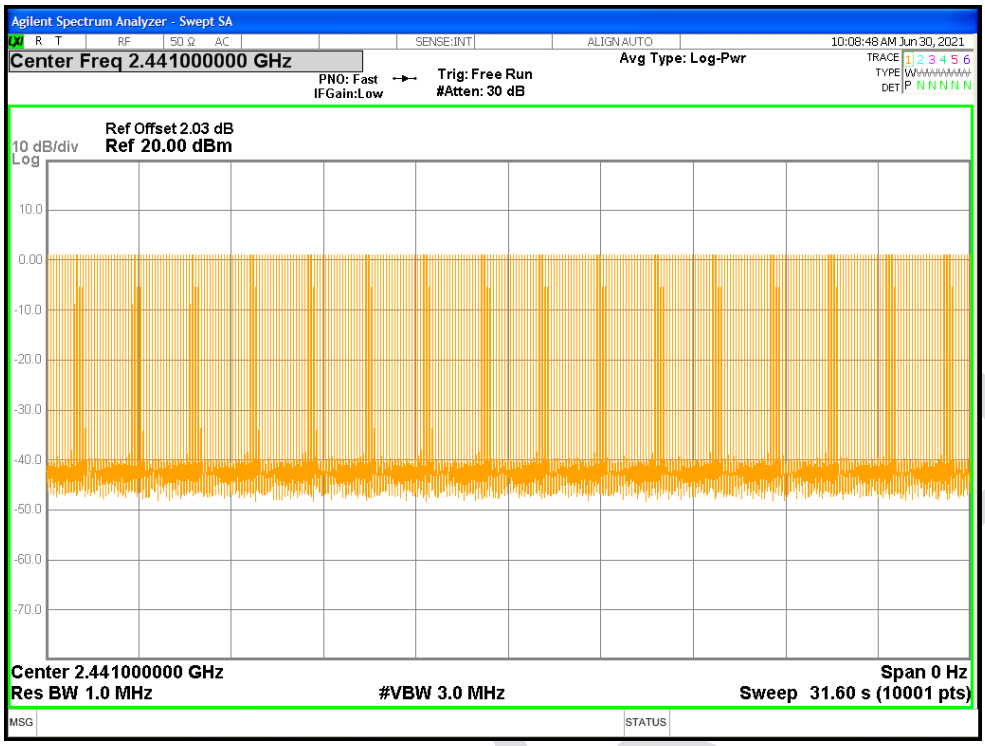


20.9 DWELL TIME

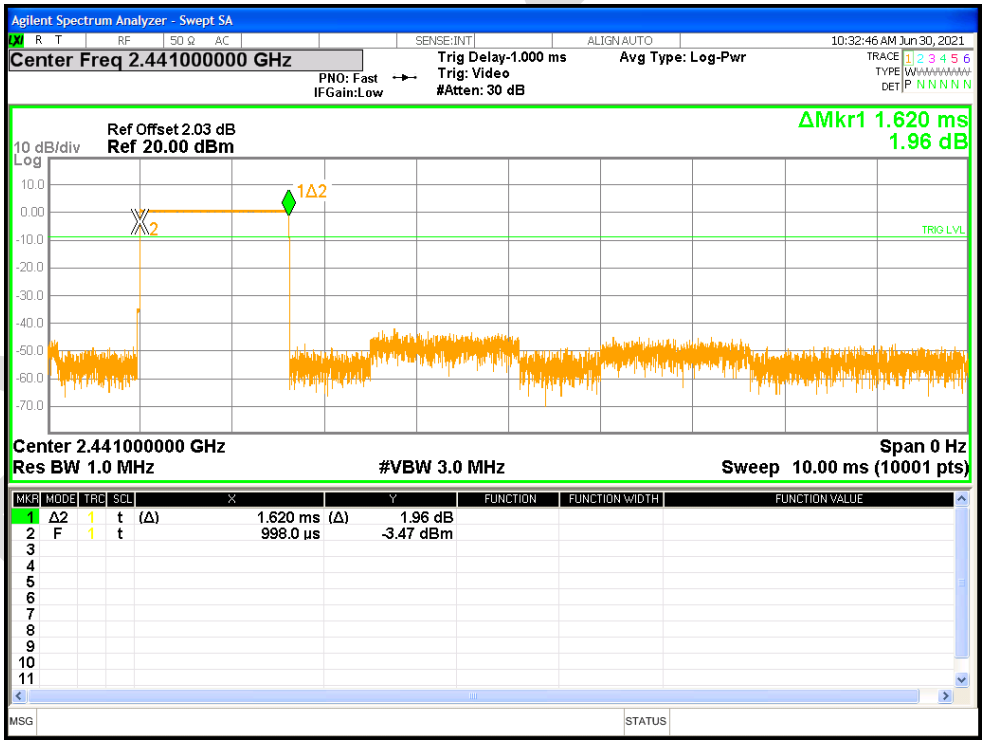
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.365	116.435	319	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.62	259.2	160	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.869	306.983	107	31600	400	Pass

Dwell NVNT 1-DH1 2441MHz Ant1 One Burst

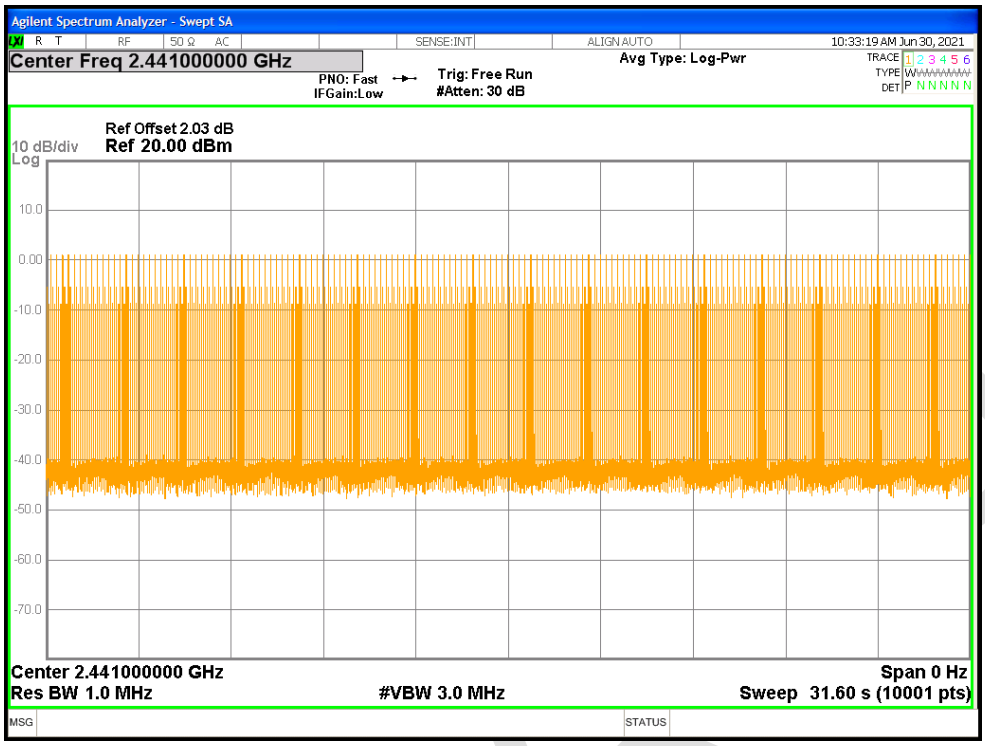
Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



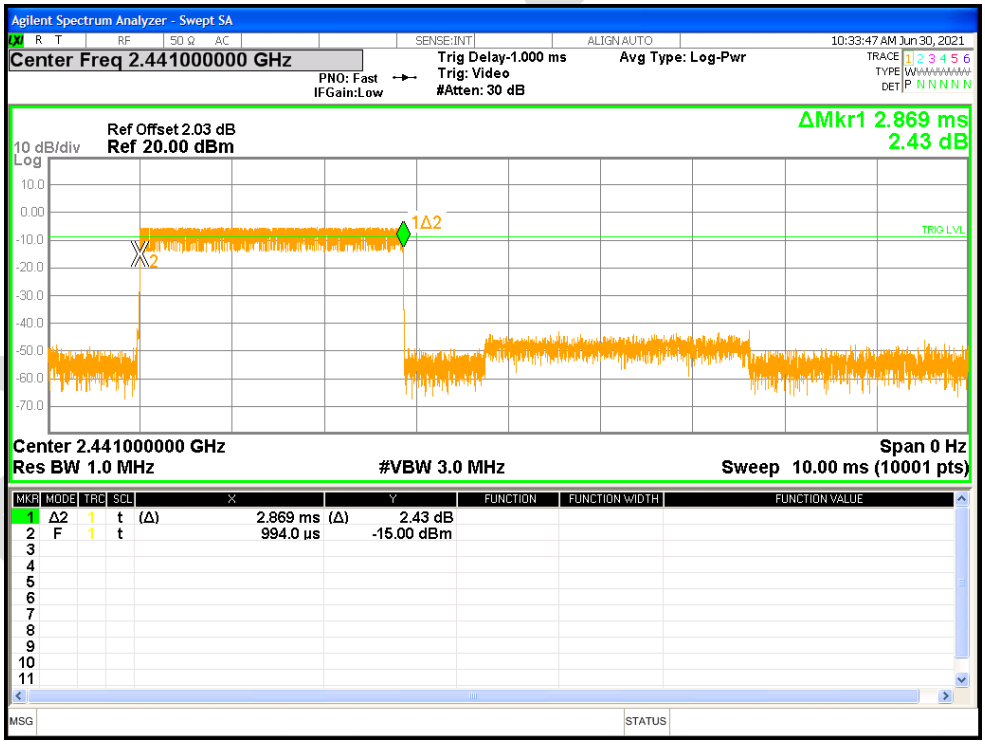
Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



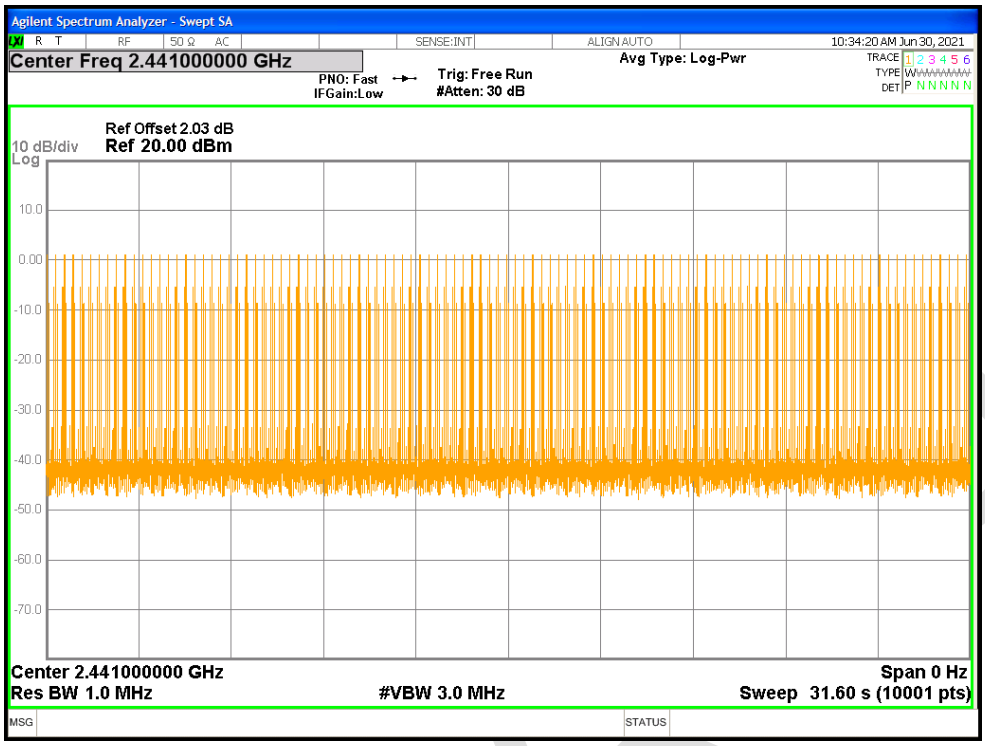
Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH5 2441MHz Ant1 One Burst

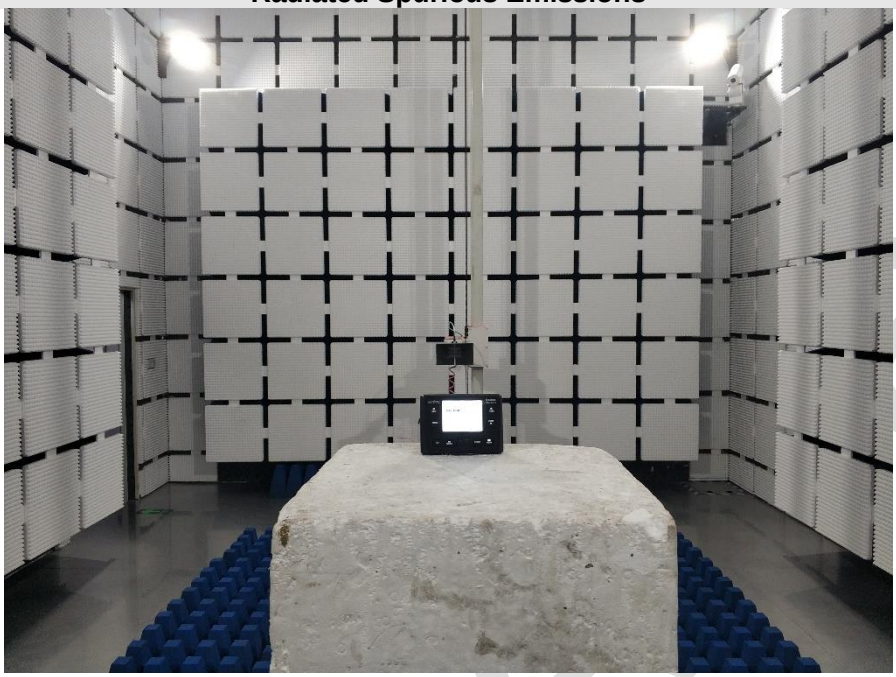


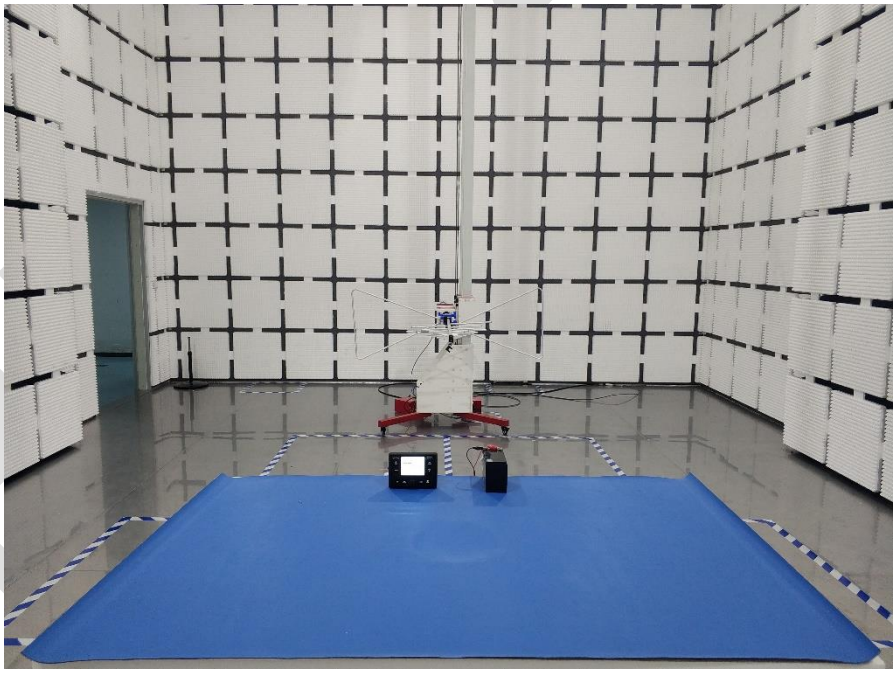
Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
10:34:20 AM Jun 30, 2021
Ref Offset 2.03 dB
10 dB/div
Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.441000000 GHz
Span 0 Hz
Res BW 1.0 MHz
#VBW 3.0 MHz
Sweep 31.60 s (10001 pts)

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Spurious Emissions





APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202106-A4801

----END OF REPORT----

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of BlueAsia, this report can't be reproduced except in full.

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