



Appendix A

RF Test Data for 2.4G (Conducted Measurement)

Product Name: Mesh Rider Radio

Test Model: RM-1700-21N3

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





A.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	g-20M	2412	Ant0	13.814	>=0.5	Pass
NVNT	g-20M	2437	Ant0	13.963	>=0.5	Pass
NVNT	g-20M	2462	Ant0	15.941	>=0.5	Pass
NVNT	n-20M	2412	Ant0	15.01	>=0.5	Pass
NVNT	n-20M	2437	Ant0	15.032	>=0.5	Pass
NVNT	n-20M	2462	Ant0	13.892	>=0.5	Pass
NVNT	g-10M	2412	Ant0	7.784	>=0.5	Pass
NVNT	g-10M	2437	Ant0	7.861	>=0.5	Pass
NVNT	g-10M	2467	Ant0	7.893	>=0.5	Pass
NVNT	n-10M	2412	Ant0	7.978	>=0.5	Pass
NVNT	n-10M	2437	Ant0	7.805	>=0.5	Pass
NVNT	n-10M	2467	Ant0	8.328	>=0.5	Pass

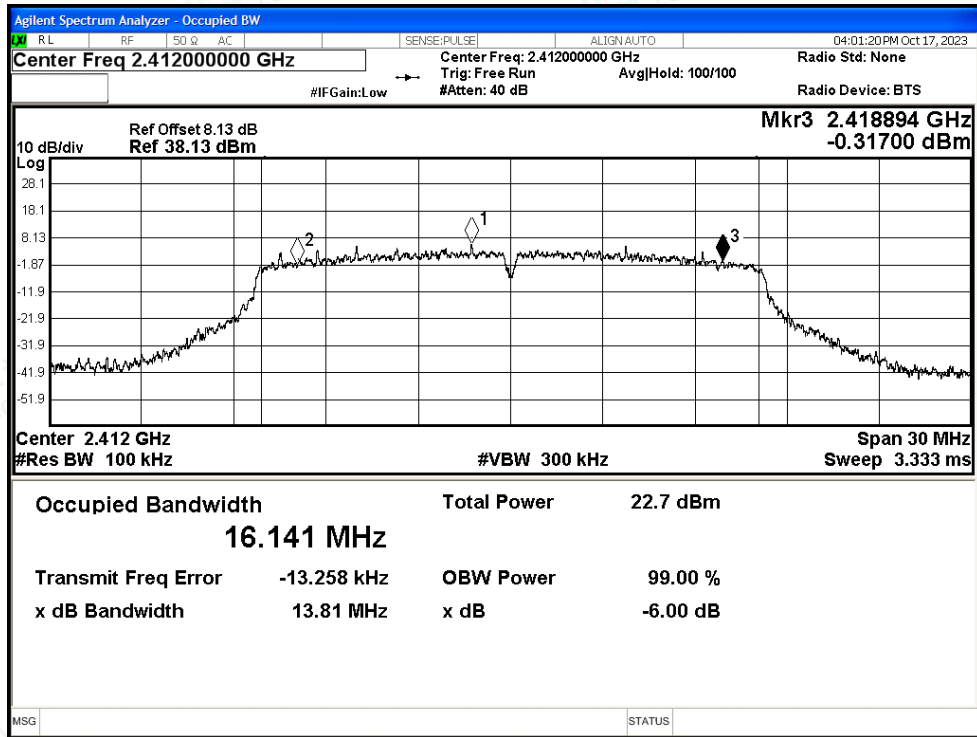


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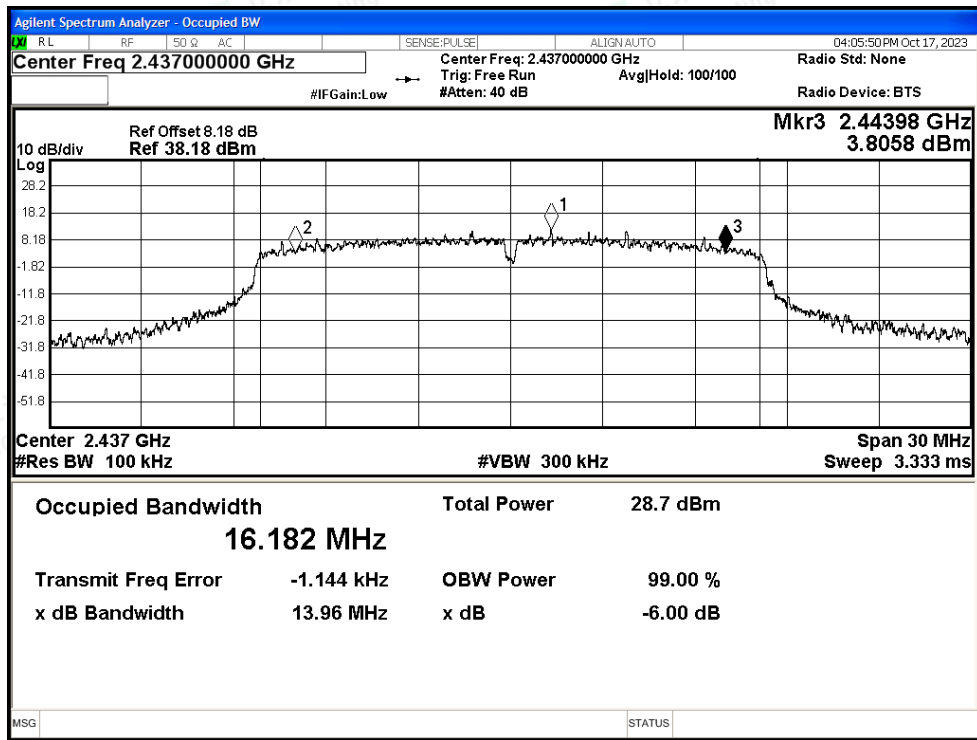


Test Graphs

-6dB Bandwidth NVNT g-20M 2412MHz Ant0

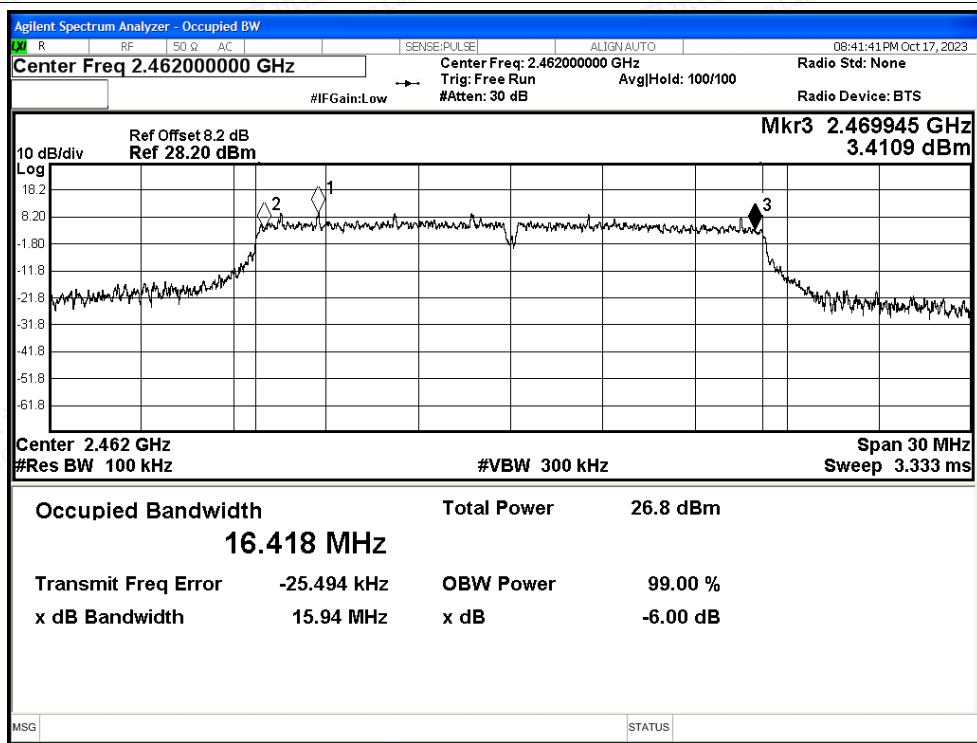


-6dB Bandwidth NVNT g-20M 2437MHz Ant0

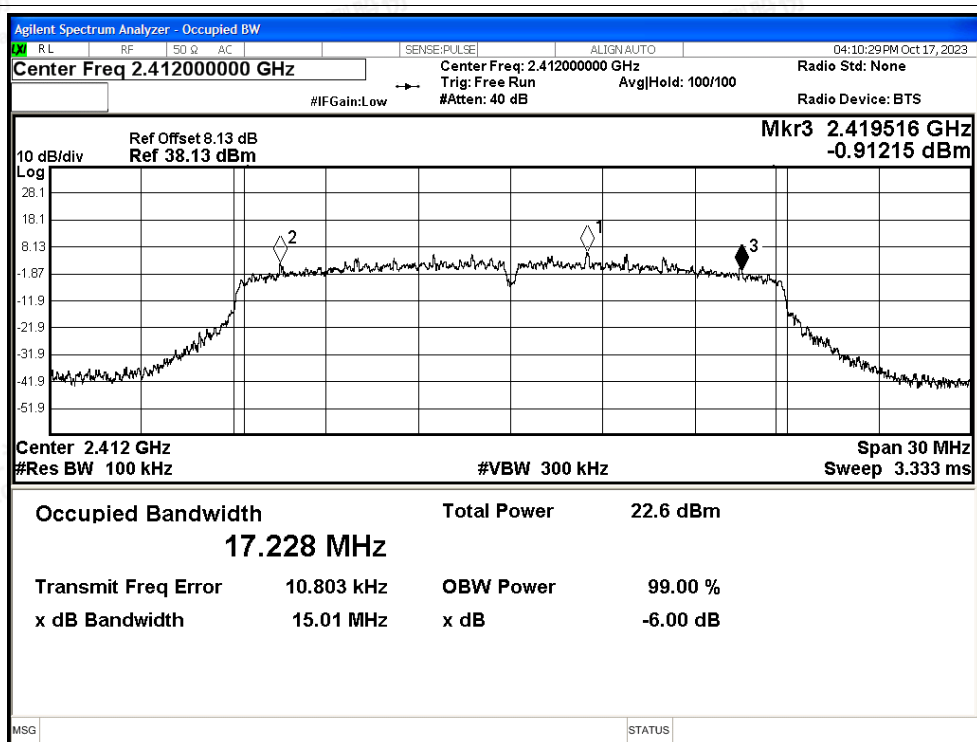




-6dB Bandwidth NVNT g-20M 2462MHz Ant0

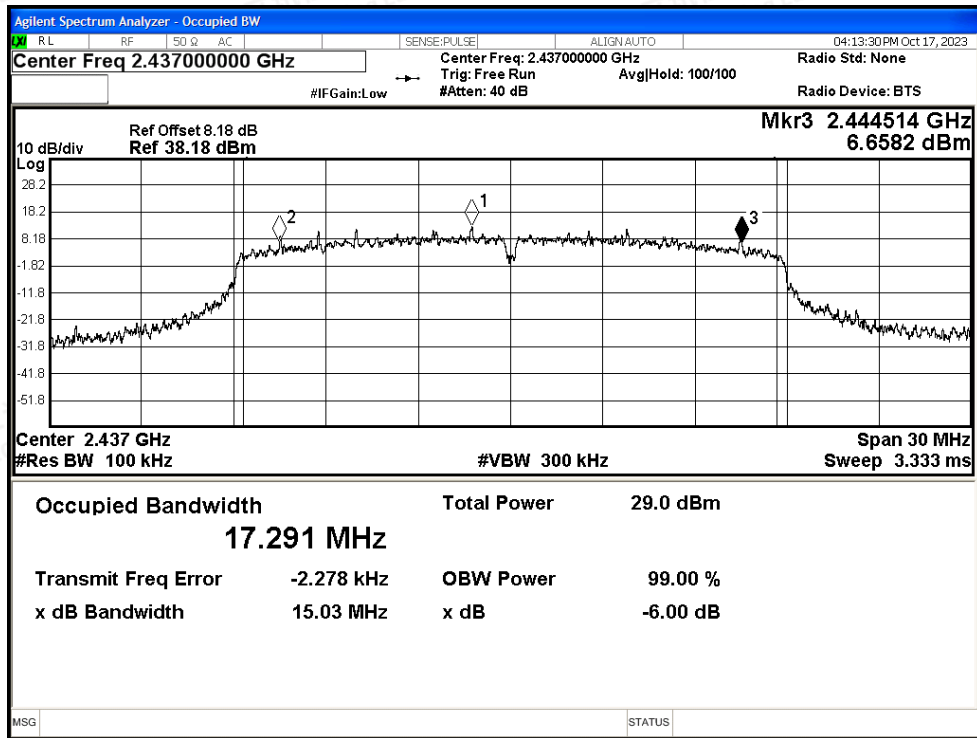


-6dB Bandwidth NVNT n-20M 2412MHz Ant0

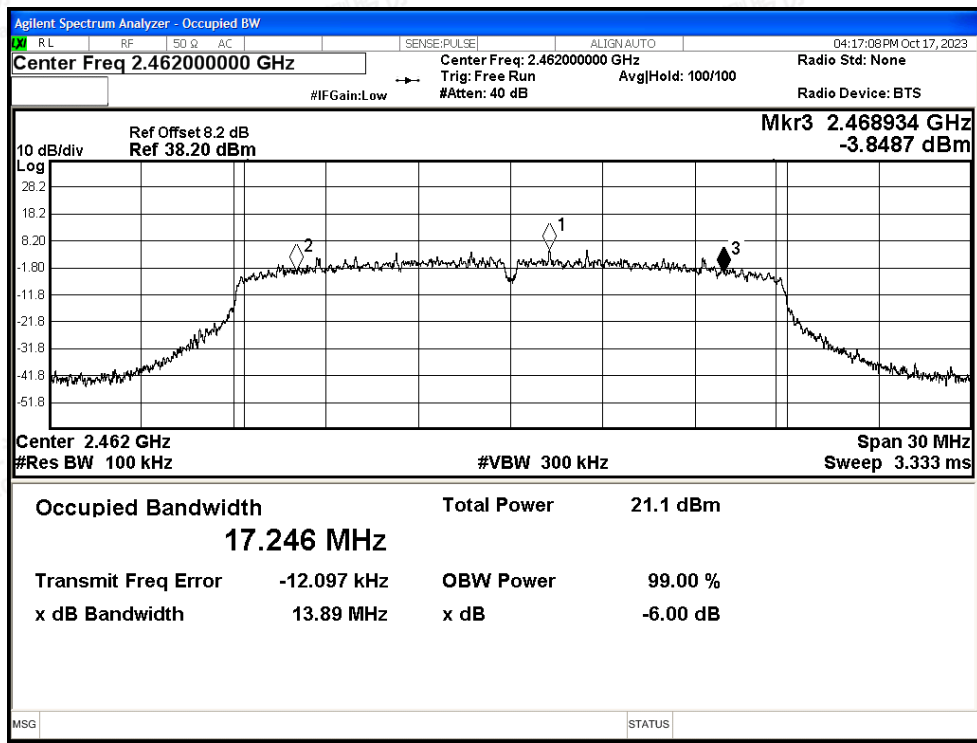




-6dB Bandwidth NVNT n-20M 2437MHz Ant0

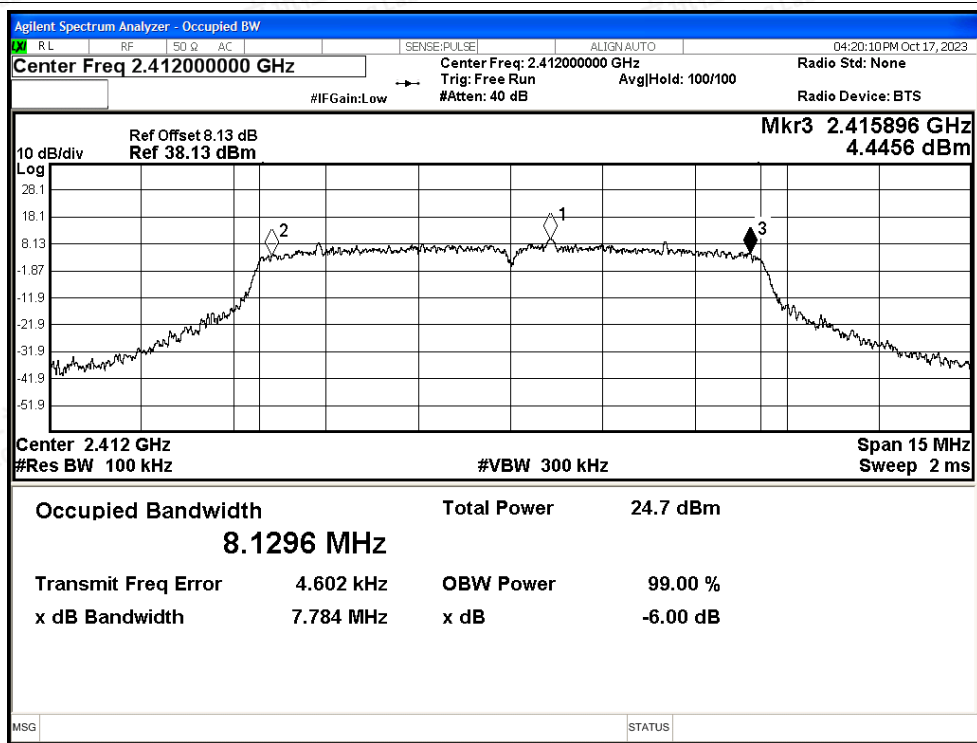


-6dB Bandwidth NVNT n-20M 2462MHz Ant0

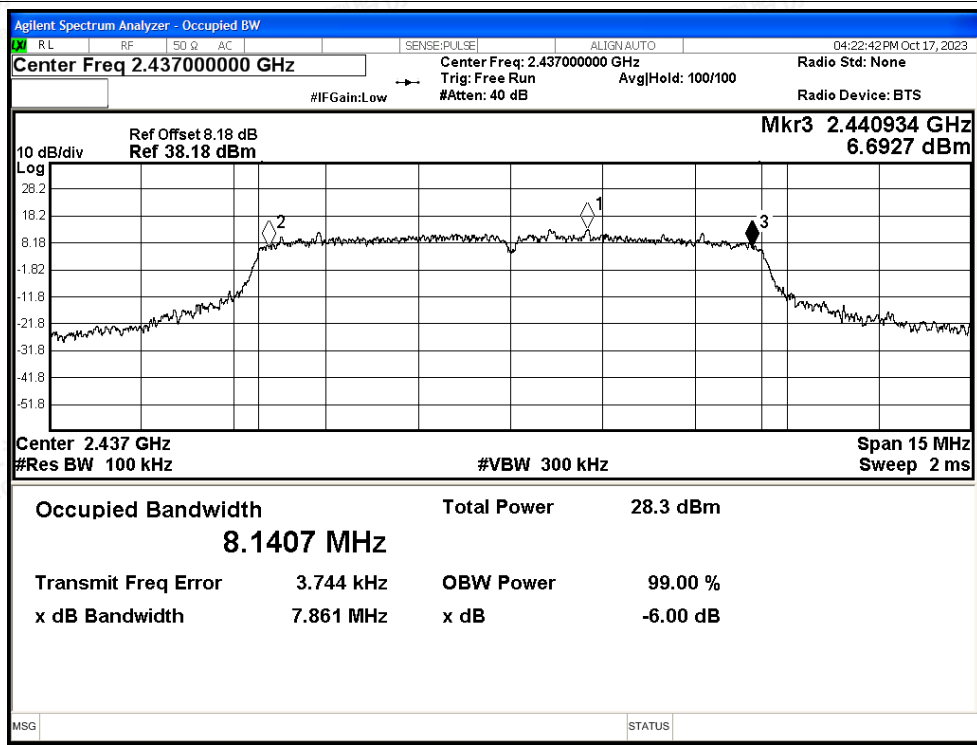




-6dB Bandwidth NVNT g-10M 2412MHz Ant0

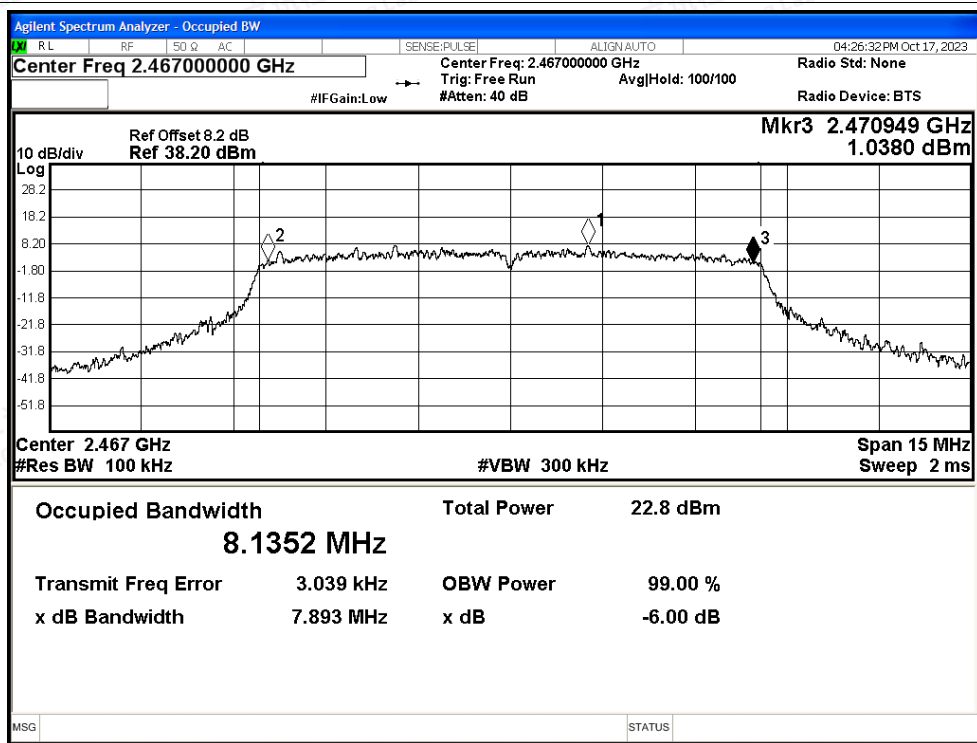


-6dB Bandwidth NVNT g-10M 2437MHz Ant0

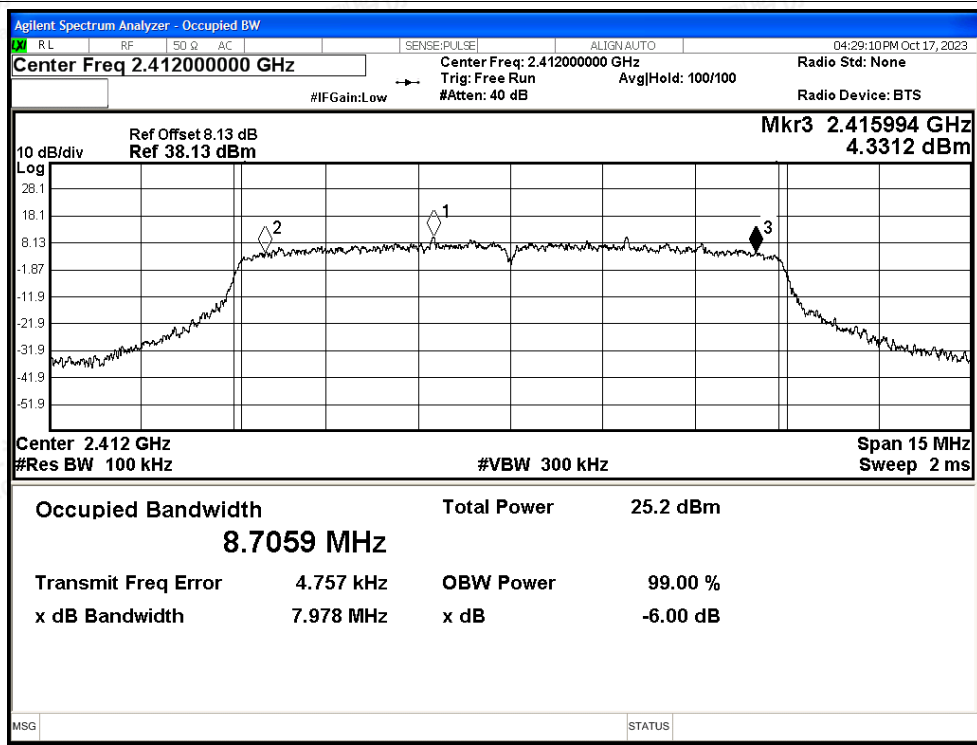




-6dB Bandwidth NVNT g-10M 2467MHz Ant0

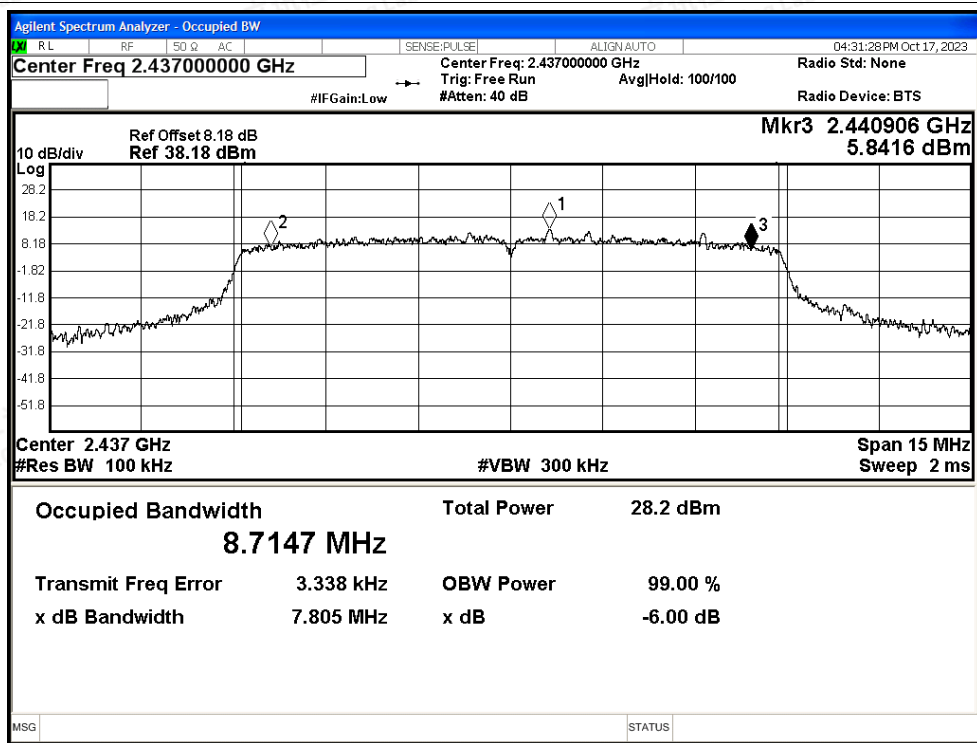


-6dB Bandwidth NVNT n-10M 2412MHz Ant0

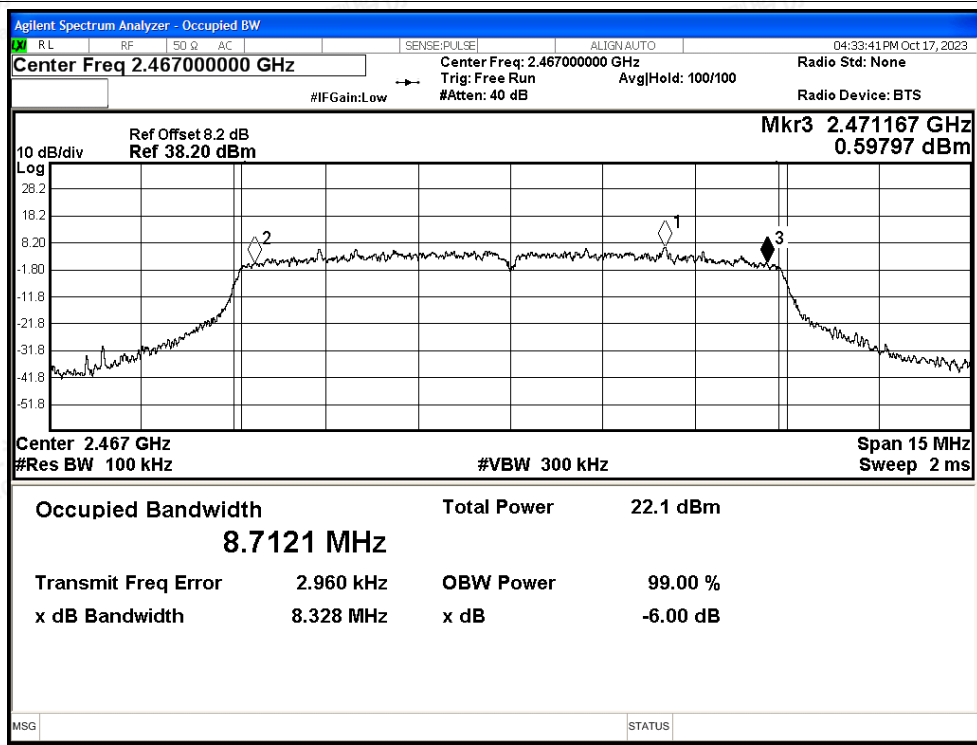




-6dB Bandwidth NVNT n-10M 2437MHz Ant0



-6dB Bandwidth NVNT n-10M 2467MHz Ant0





A.2 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	g-20M	2412	Ant0	16.121
NVNT	g-20M	2437	Ant0	16.128
NVNT	g-20M	2462	Ant0	16.107
NVNT	n-20M	2412	Ant0	17.215
NVNT	n-20M	2437	Ant0	17.236
NVNT	n-20M	2462	Ant0	17.221
NVNT	g-10M	2412	Ant0	8.128
NVNT	g-10M	2437	Ant0	8.146
NVNT	g-10M	2467	Ant0	8.128
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NVNT	n-10M	2467	Ant0	8.71

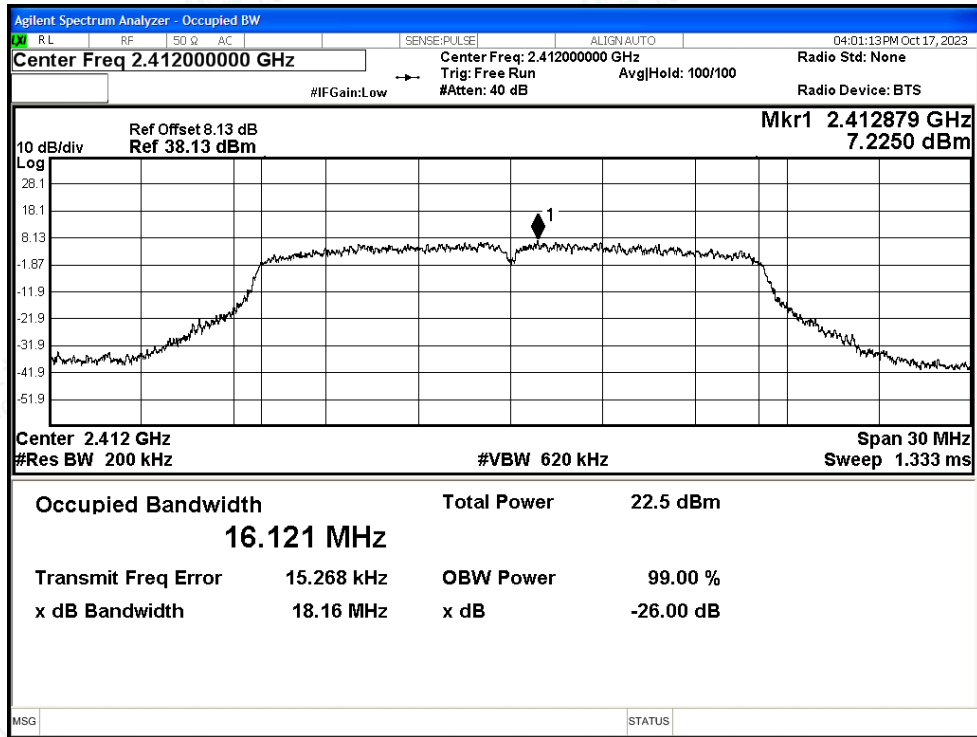


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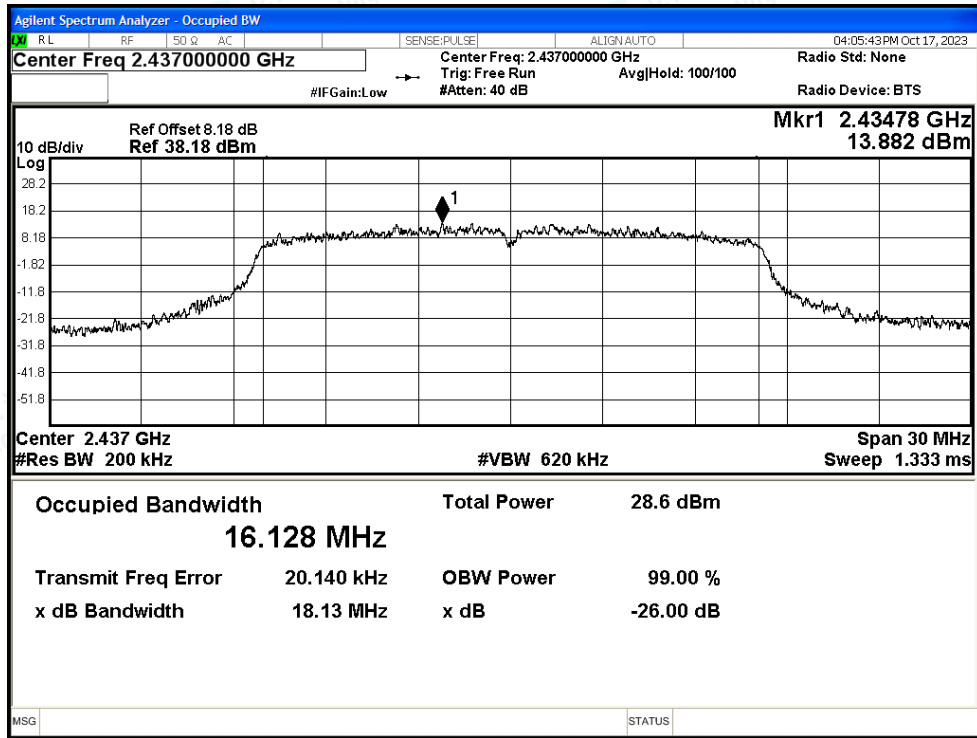


Test Graphs

OBW NVNT g-20M 2412MHz Ant0

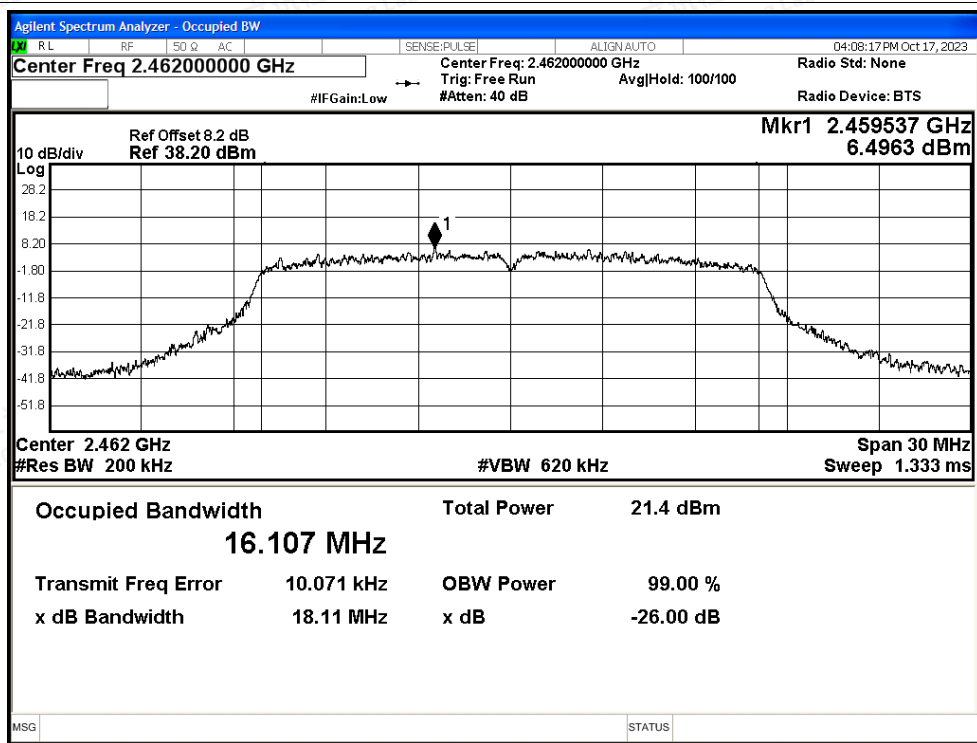


OBW NVNT g-20M 2437MHz Ant0

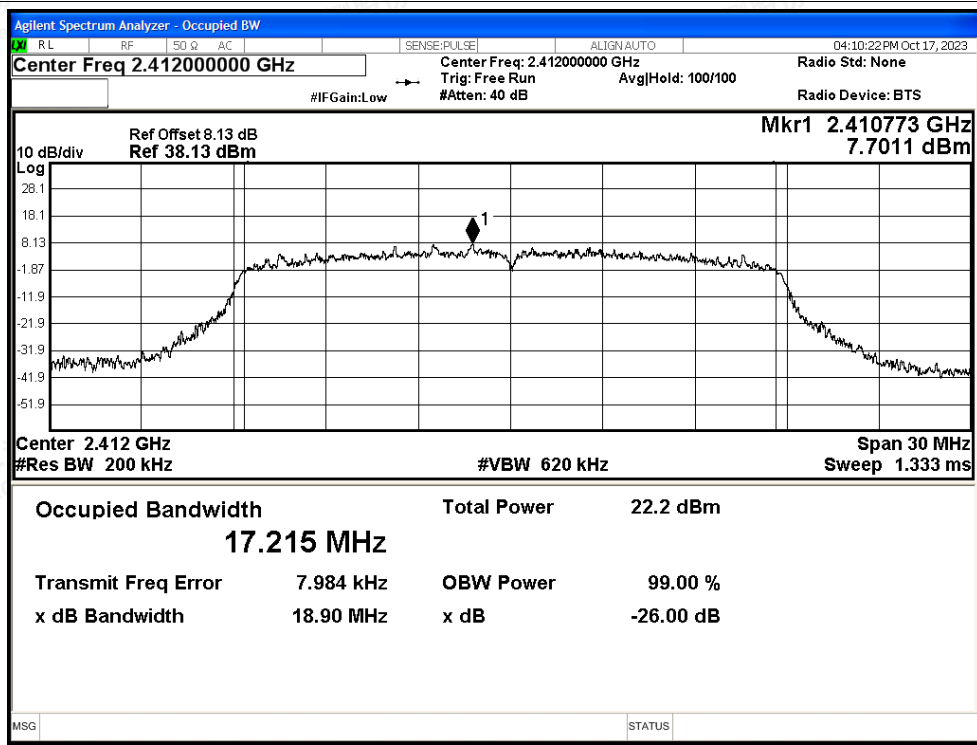




OBW NVNT g-20M 2462MHz Ant0

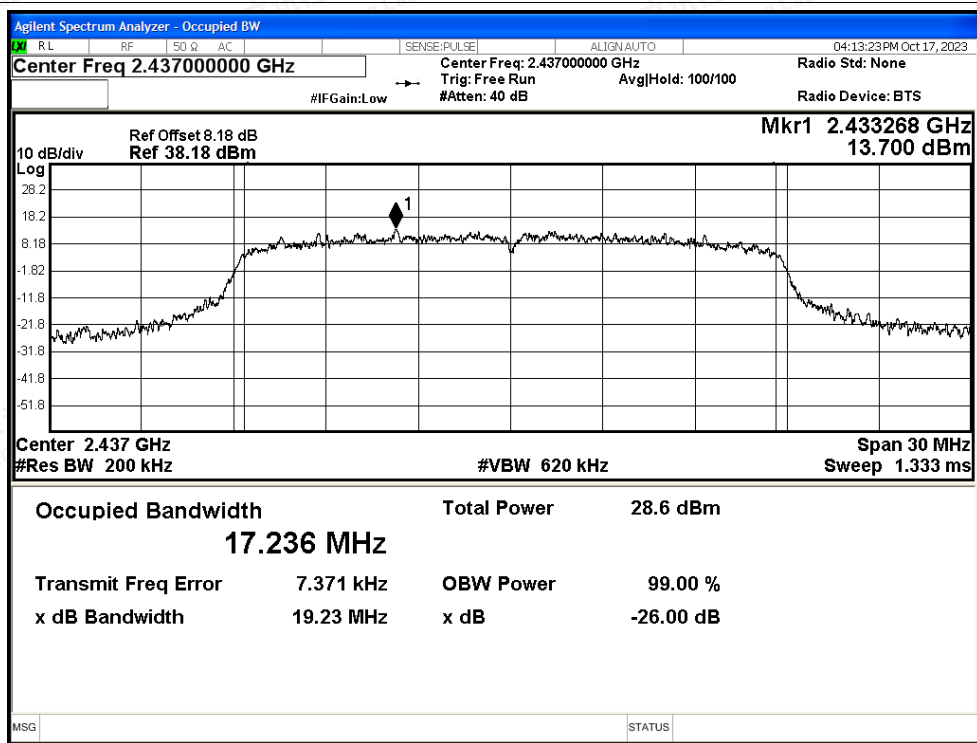


OBW NVNT n-20M 2412MHz Ant0

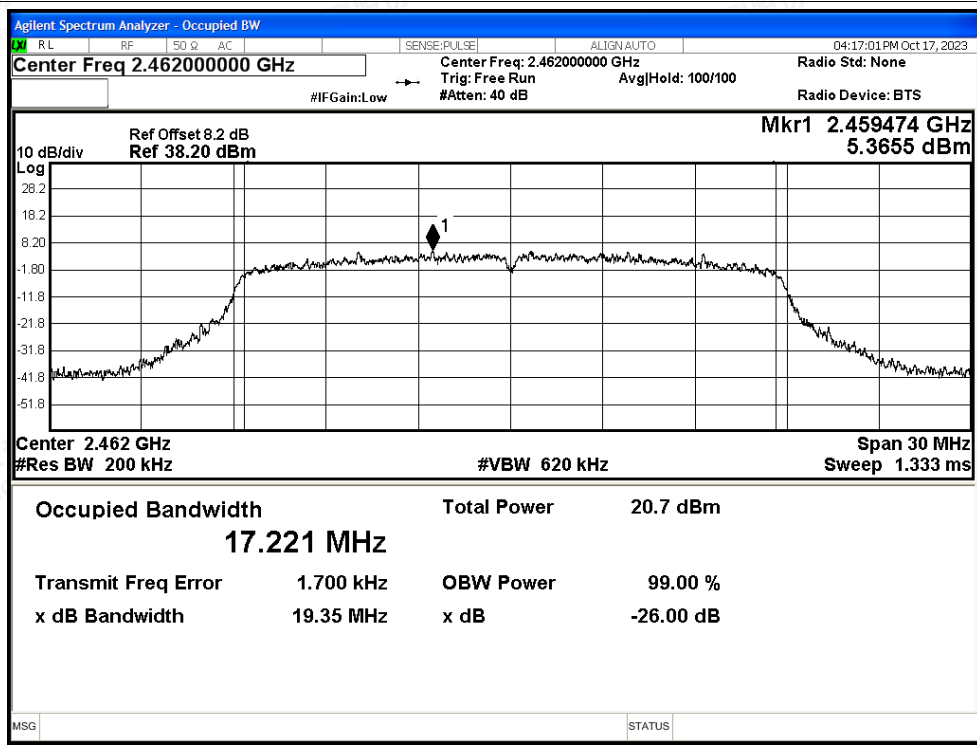




OBW NVNT n-20M 2437MHz Ant0

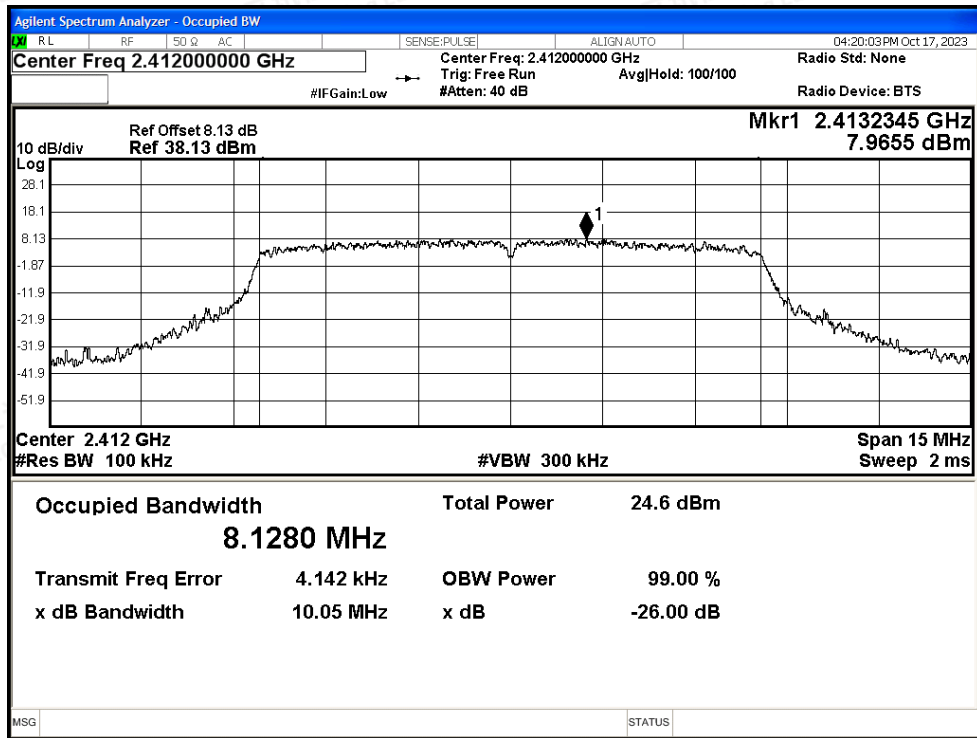


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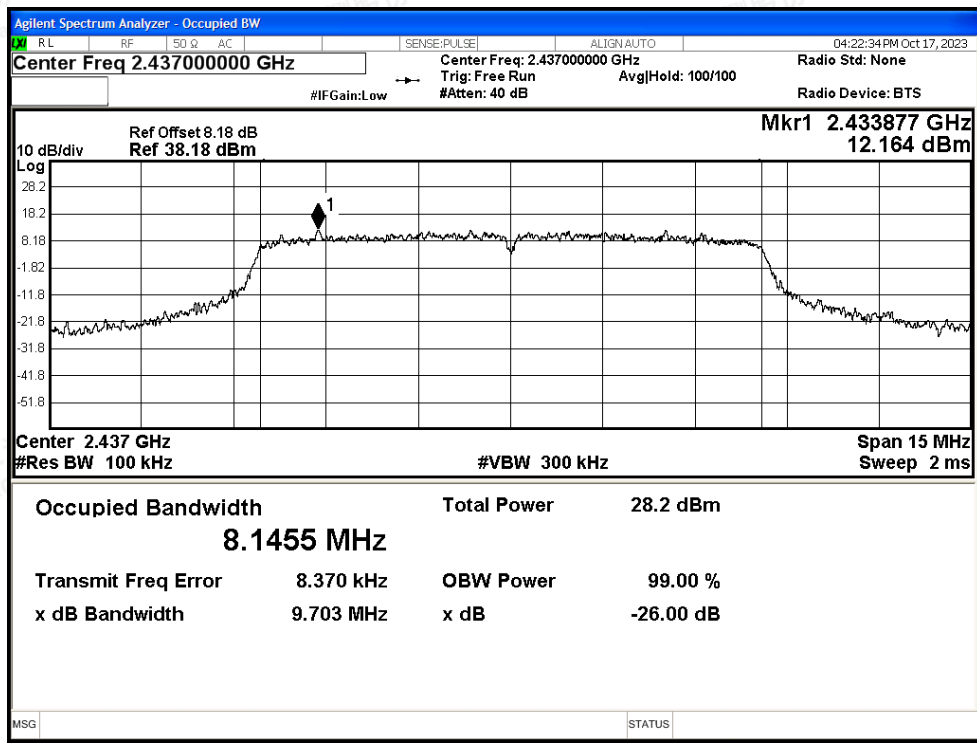




OBW NVNT g-10M 2412MHz Ant0

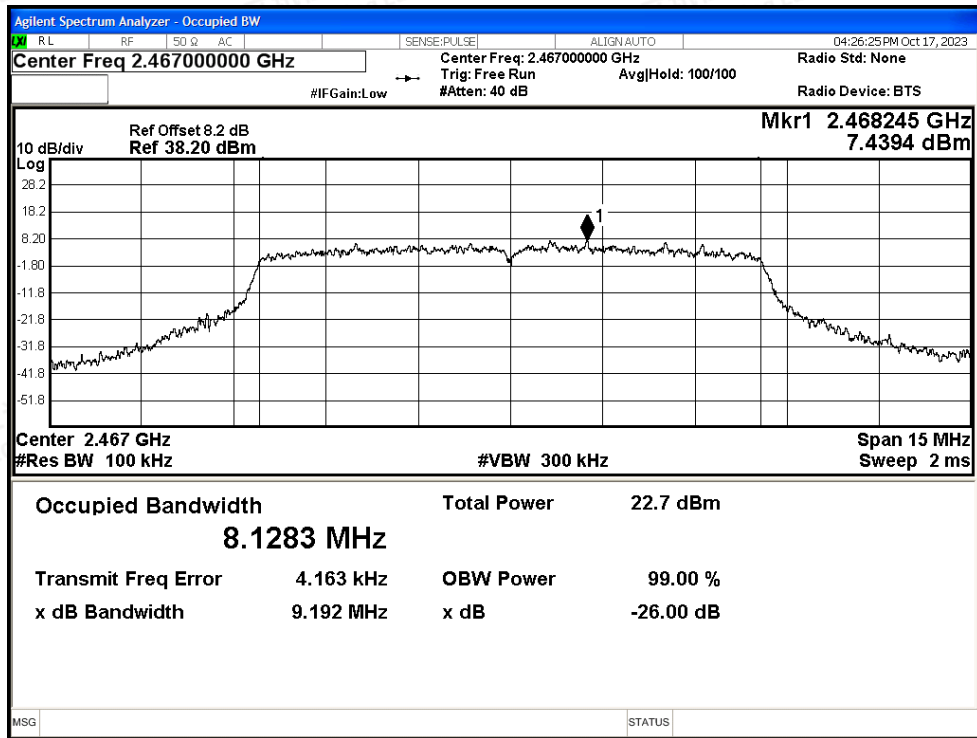


OBW NVNT g-10M 2437MHz Ant0

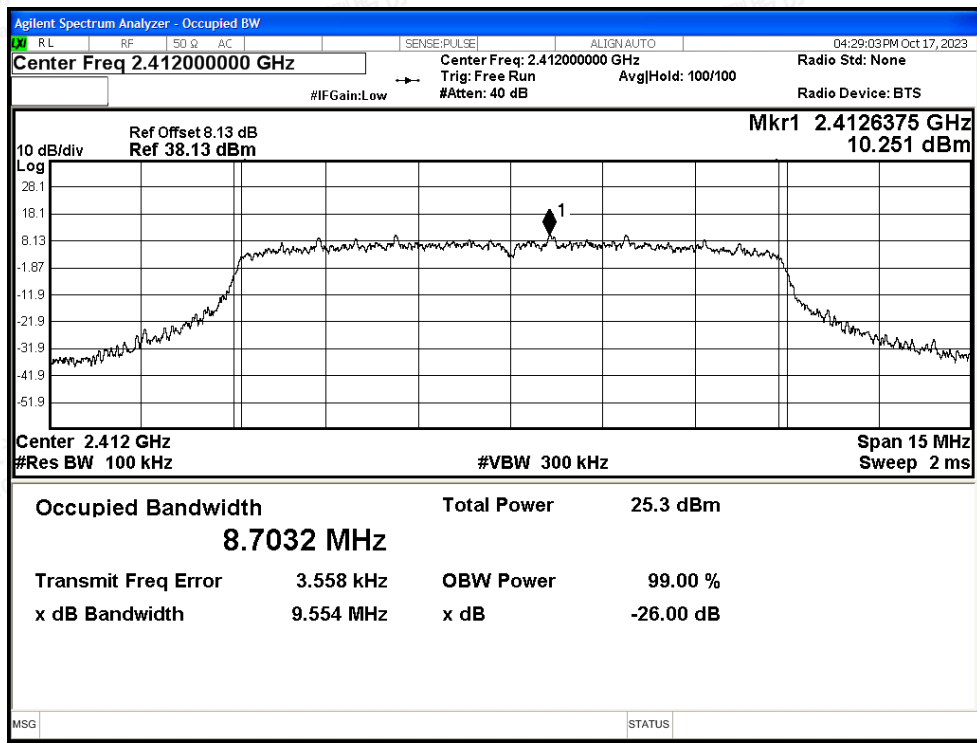




OBW NVNT g-10M 2467MHz Ant0

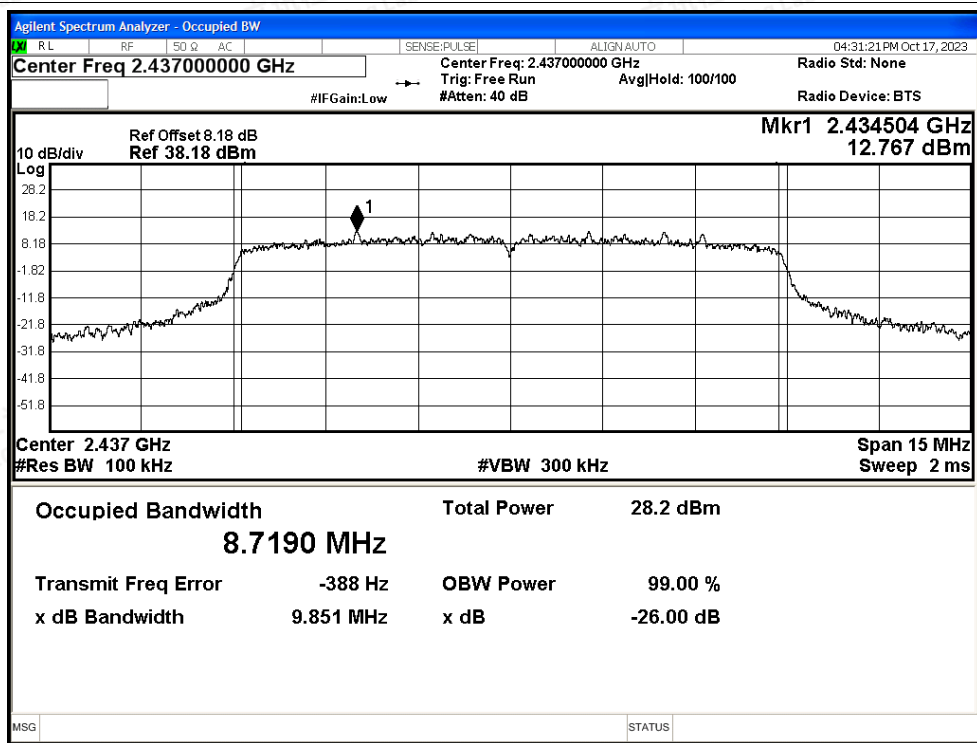


OBW NVNT n-10M 2412MHz Ant0

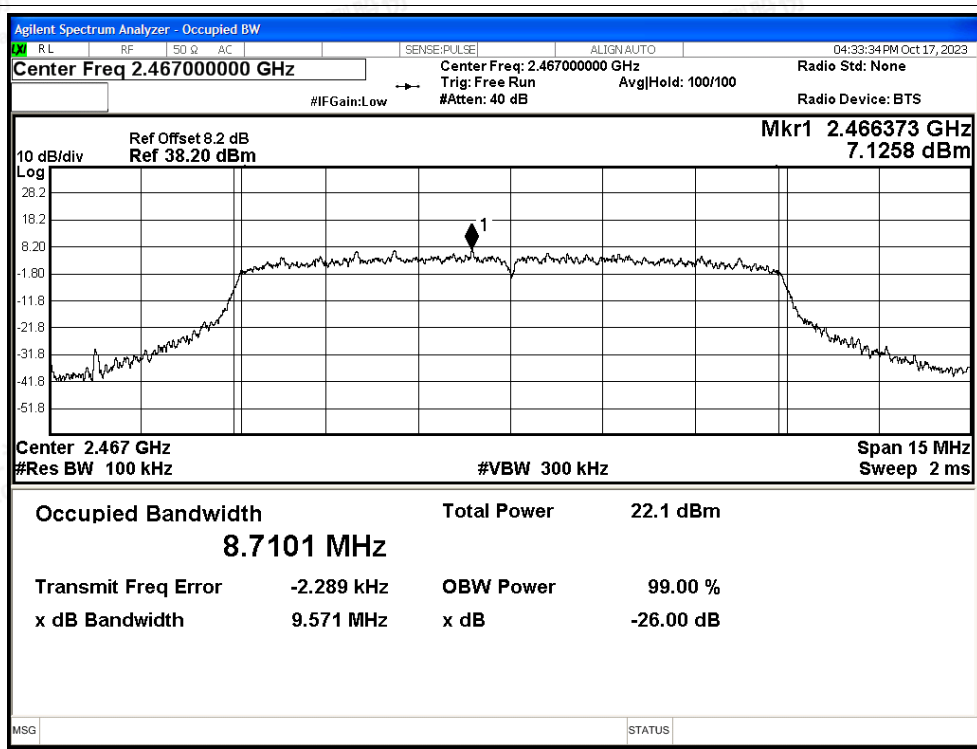




OBW NVNT n-10M 2437MHz Ant0



OBW NVNT n-10M 2467MHz Ant0





A.3 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	g-20M	2412	Ant0	21.34	30	Pass
NVNT	g-20M	2437	Ant0	27.3	30	Pass
NVNT	g-20M	2462	Ant0	20.3	30	Pass
NVNT	n-20M	2412	Ant0	21.15	30	Pass
NVNT	n-20M	2437	Ant0	27.57	30	Pass
NVNT	n-20M	2462	Ant0	19.7	30	Pass
NVNT	g-10M	2412	Ant0	24.1	30	Pass
NVNT	g-10M	2437	Ant0	27.65	30	Pass
NVNT	g-10M	2467	Ant0	22.09	30	Pass
NVNT	n-10M	2412	Ant0	24.85	30	Pass
NVNT	n-10M	2437	Ant0	27.69	30	Pass
NVNT	n-10M	2467	Ant0	21.69	30	Pass



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A.4 Maximum Power Spectral Density Level

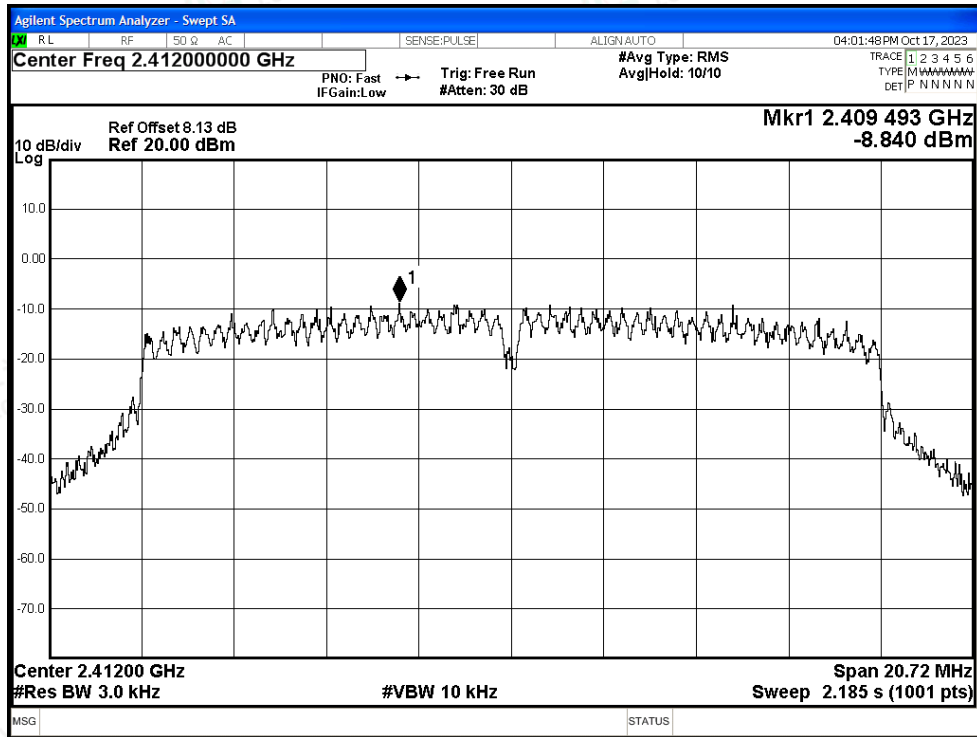
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	g-20M	2412	Ant0	-8.84	8	Pass
NVNT	g-20M	2437	Ant0	-1.94	8	Pass
NVNT	g-20M	2462	Ant0	-9.72	8	Pass
NVNT	n-20M	2412	Ant0	-7.8	8	Pass
NVNT	n-20M	2437	Ant0	-2.97	8	Pass
NVNT	n-20M	2462	Ant0	-10.13	8	Pass
NVNT	g-10M	2412	Ant0	-4.72	8	Pass
NVNT	g-10M	2437	Ant0	-0.33	8	Pass
NVNT	g-10M	2467	Ant0	-4.61	8	Pass
NVNT	n-10M	2412	Ant0	-2.05	8	Pass
NVNT	n-10M	2437	Ant0	-0.22	8	Pass
NVNT	n-10M	2467	Ant0	-6.22	8	Pass



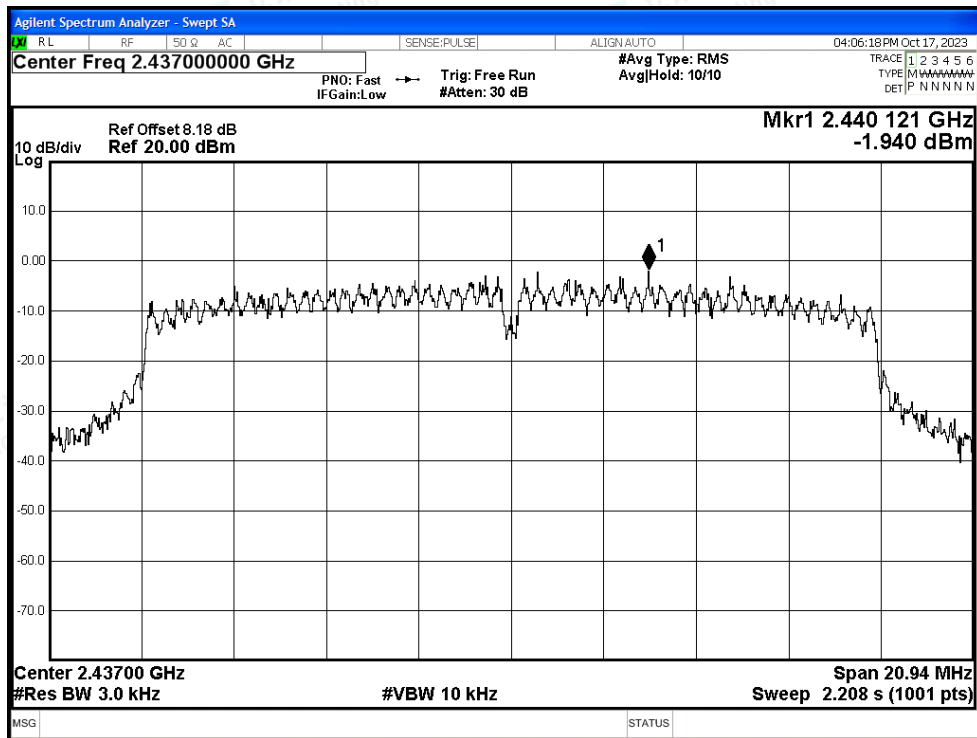


Test Graphs

PSD NVNT g-20M 2412MHz Ant0

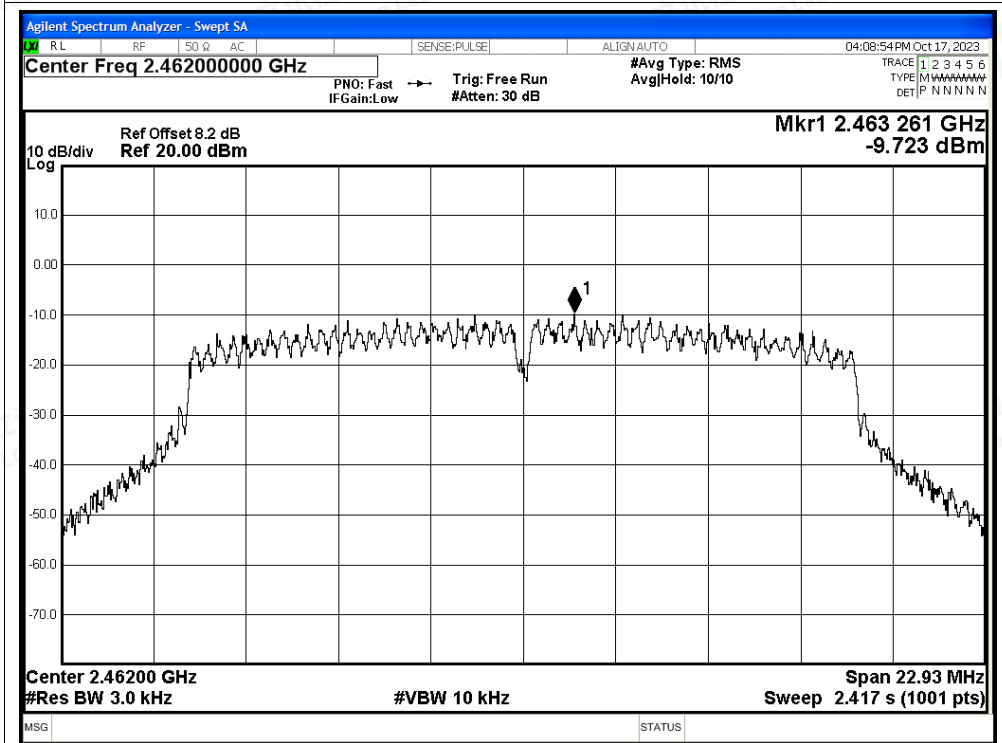


PSD NVNT g-20M 2437MHz Ant0

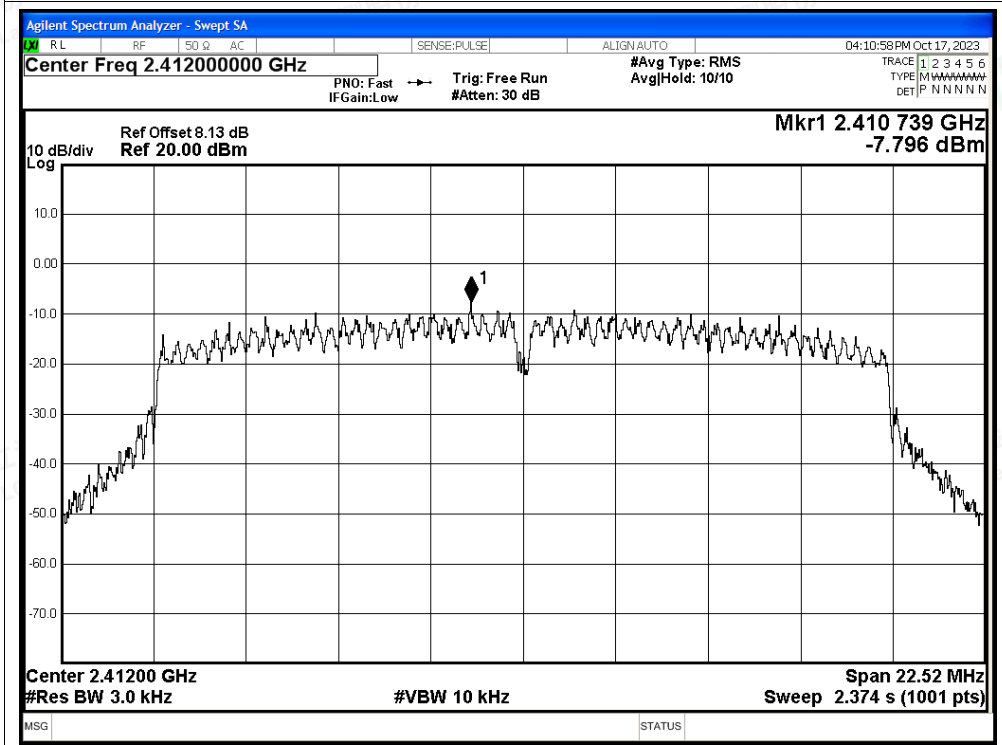




PSD NVNT g-20M 2462MHz Ant0

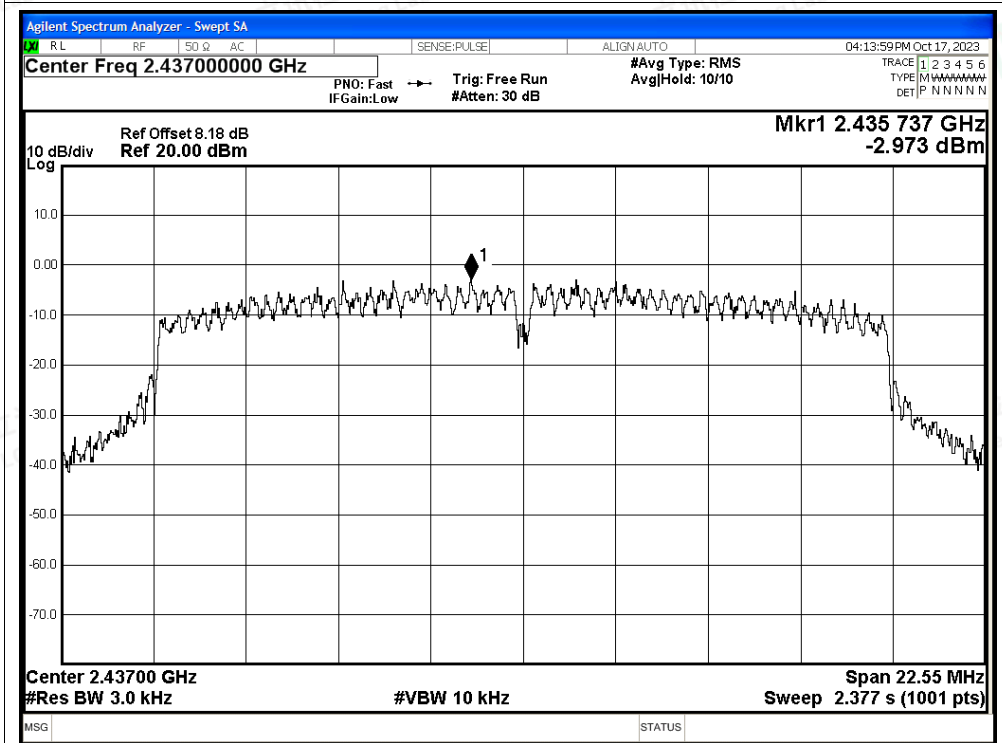


PSD NVNT n-20M 2412MHz Ant0

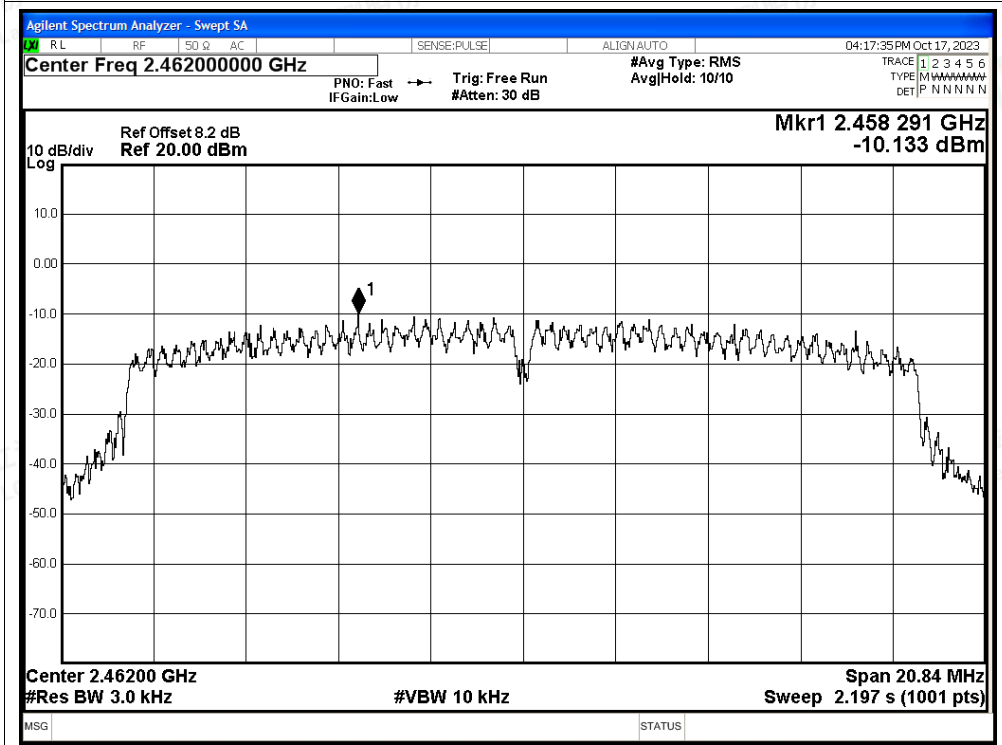




PSD NVNT n-20M 2437MHz Ant0

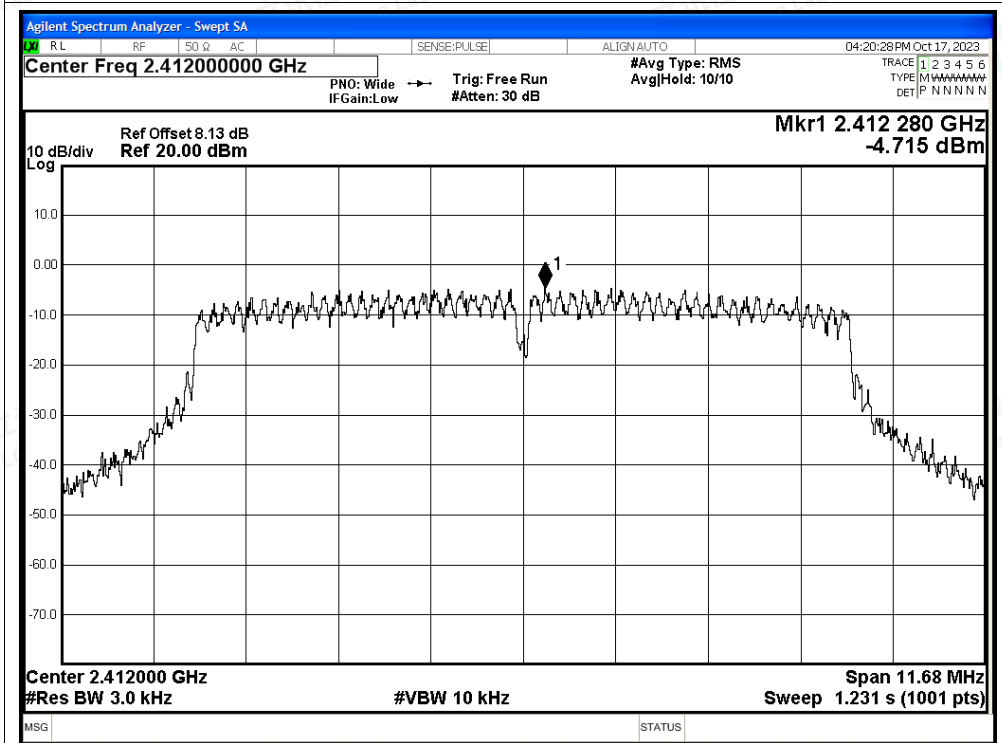


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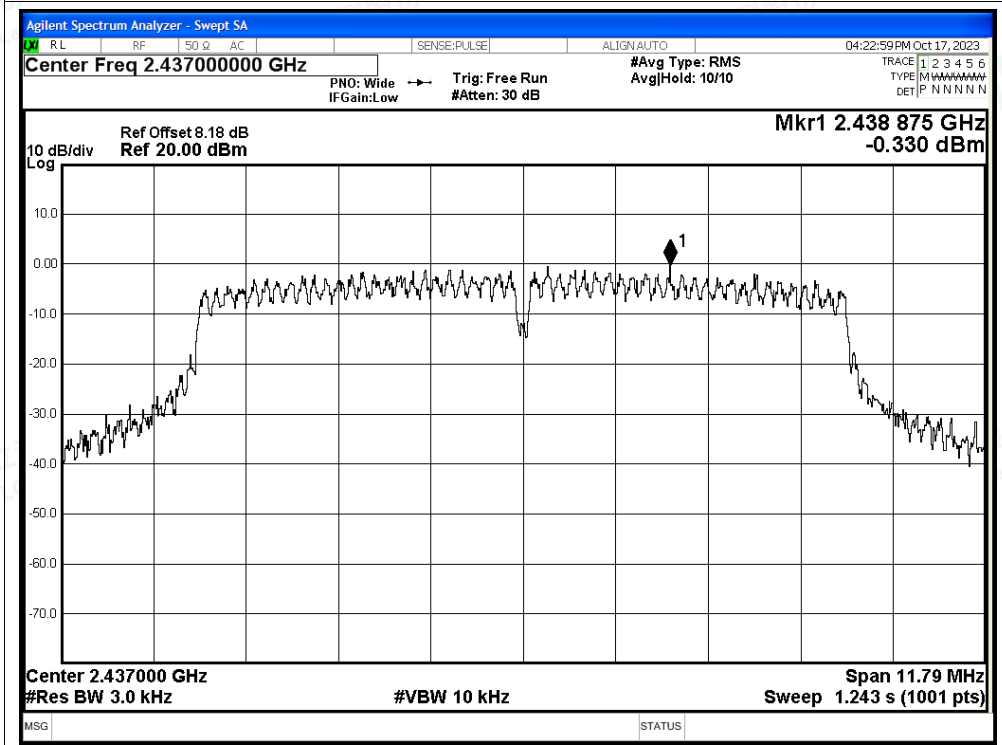




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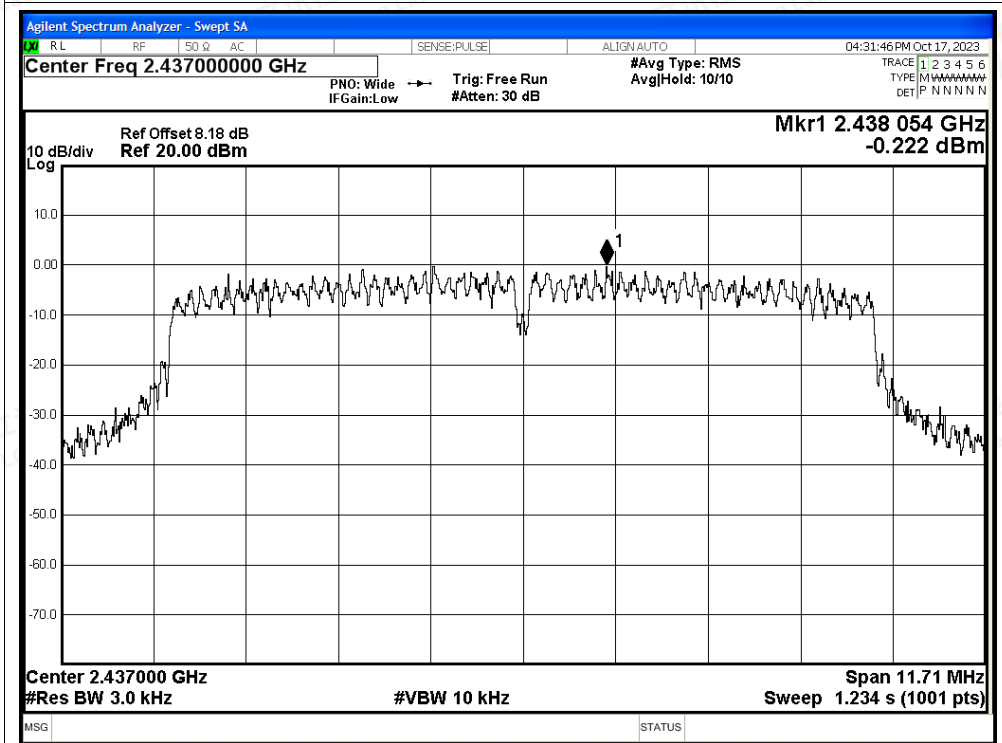


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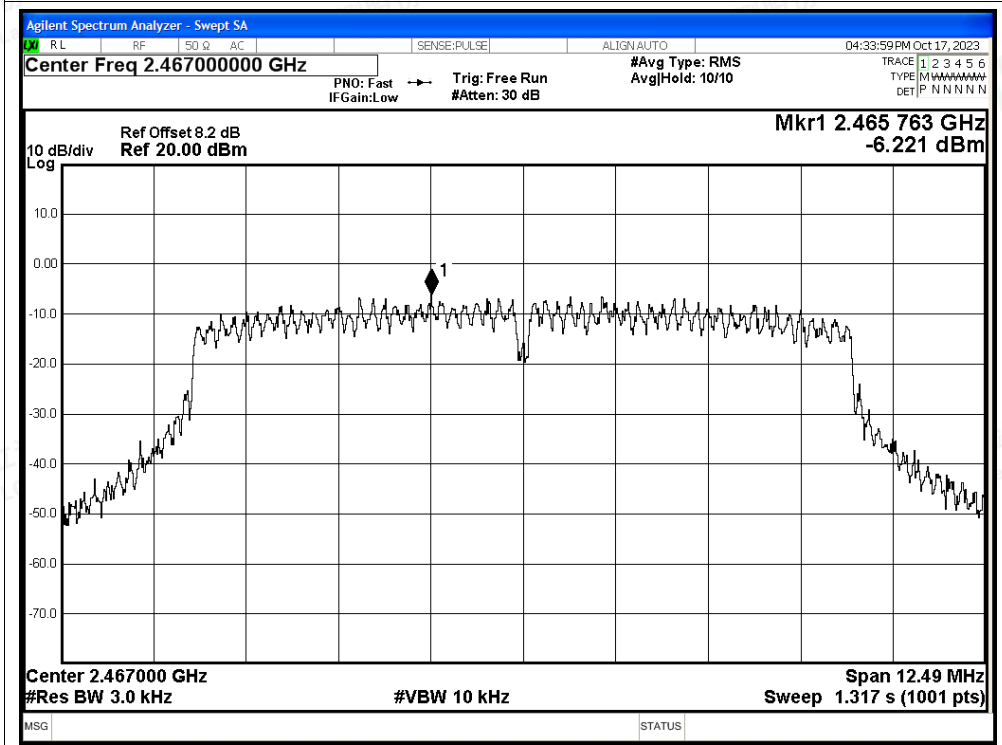




PSD NVNT n-10M 2437MHz Ant0



PSD NVNT n-10M 2467MHz Ant0





A.5 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	g-20M	2412	Ant0	-41.53	-20	Pass
NVNT	g-20M	2462	Ant0	-48.46	-20	Pass
NVNT	n-20M	2412	Ant0	-44.64	-20	Pass
NVNT	n-20M	2462	Ant0	-49.54	-20	Pass
NVNT	g-10M	2412	Ant0	-48.59	-20	Pass
NVNT	g-10M	2467	Ant0	-52.97	-20	Pass
NVNT	n-10M	2412	Ant0	-48.78	-20	Pass
NVNT	n-10M	2467	Ant0	-54.36	-20	Pass

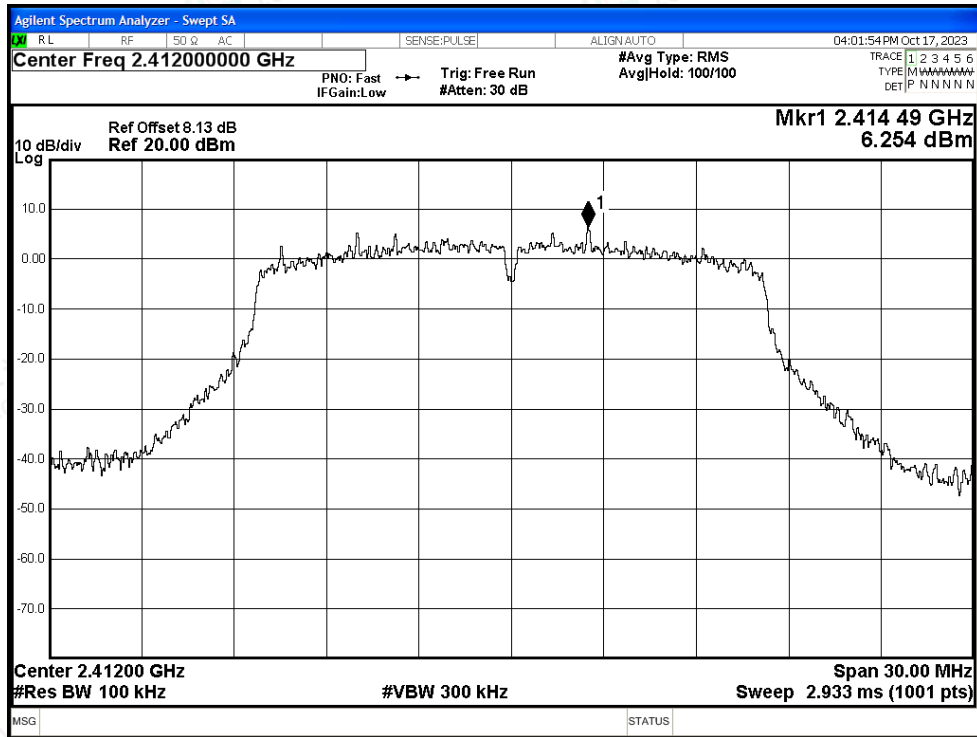


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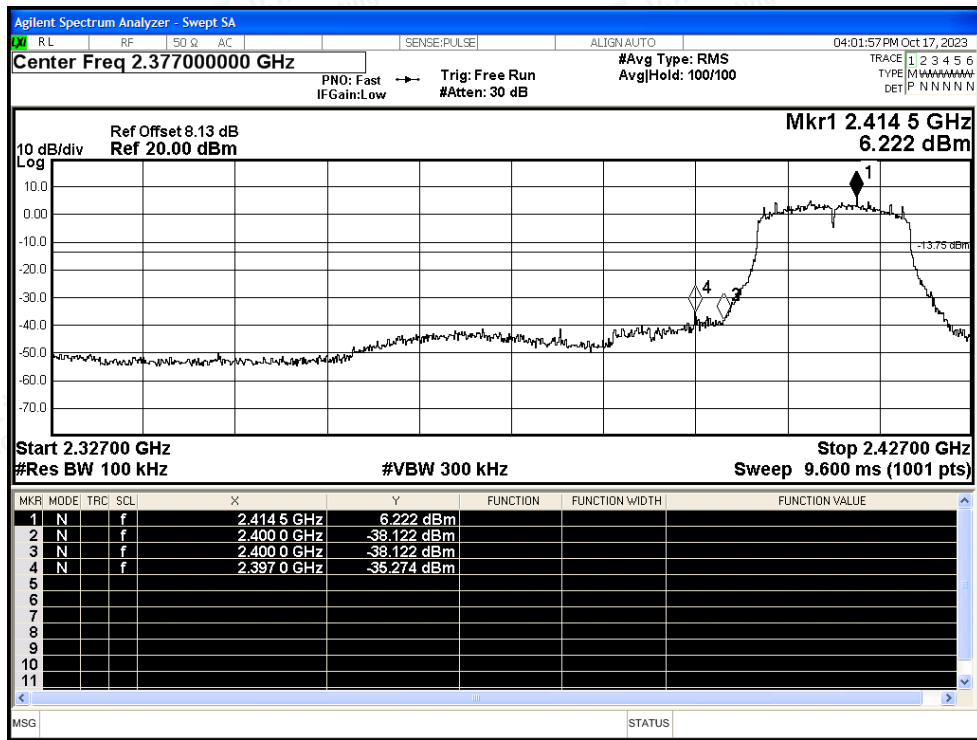


Test Graphs

Band Edge NVNT g-20M 2412MHz Ant0 Ref

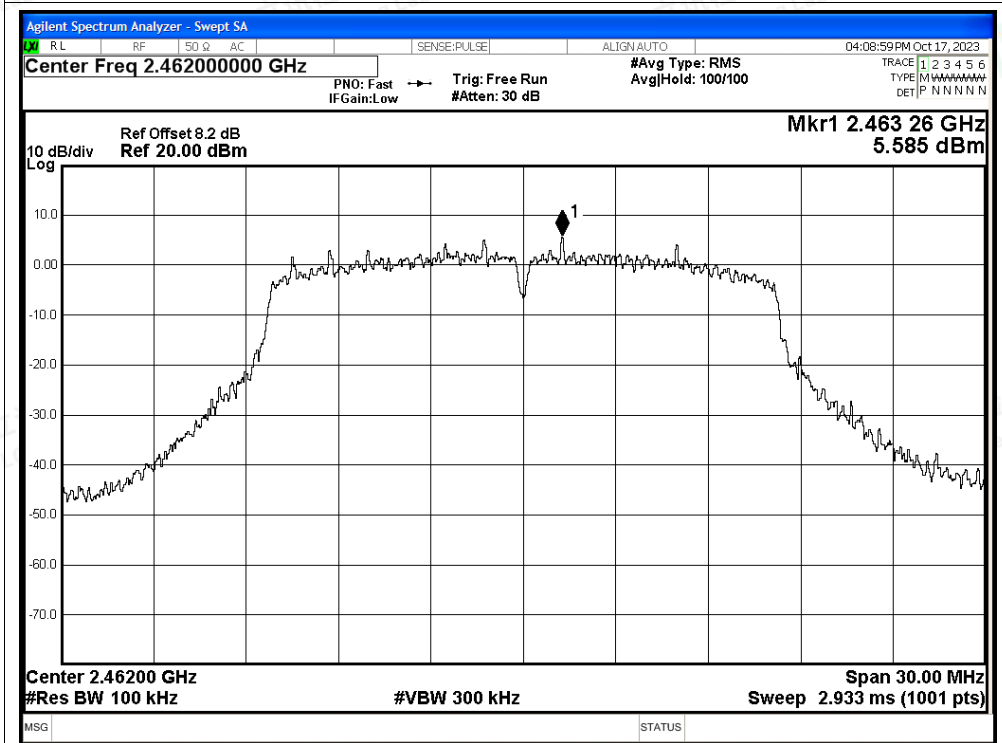


Band Edge NVNT g-20M 2412MHz Ant0 Emission

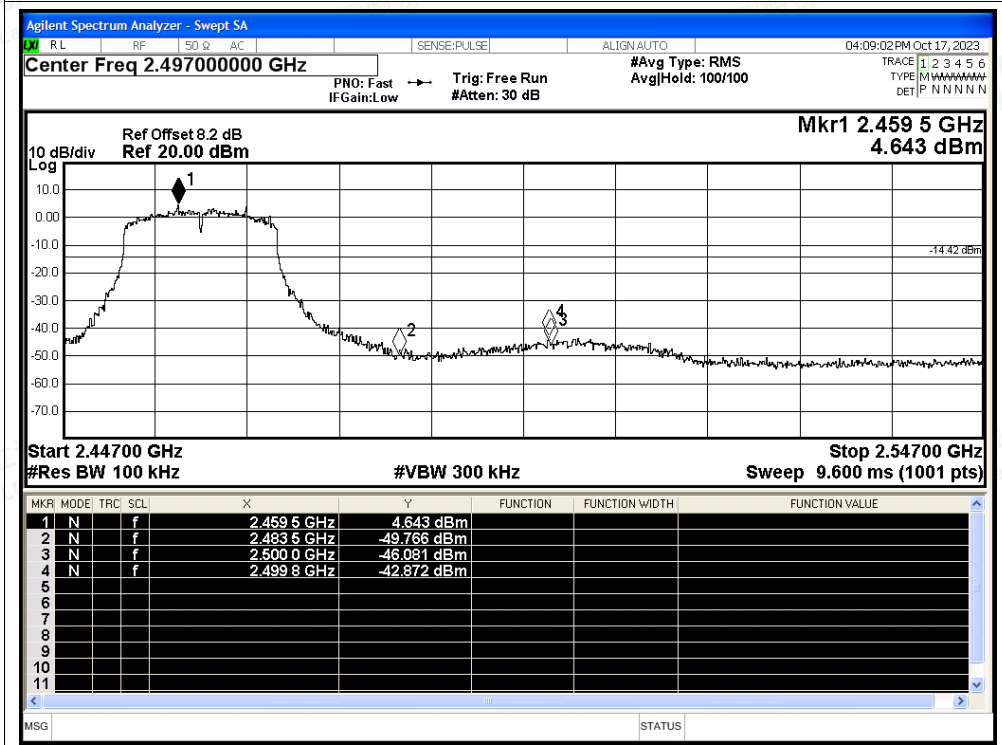




Band Edge NVNT g-20M 2462MHz Ant0 Ref

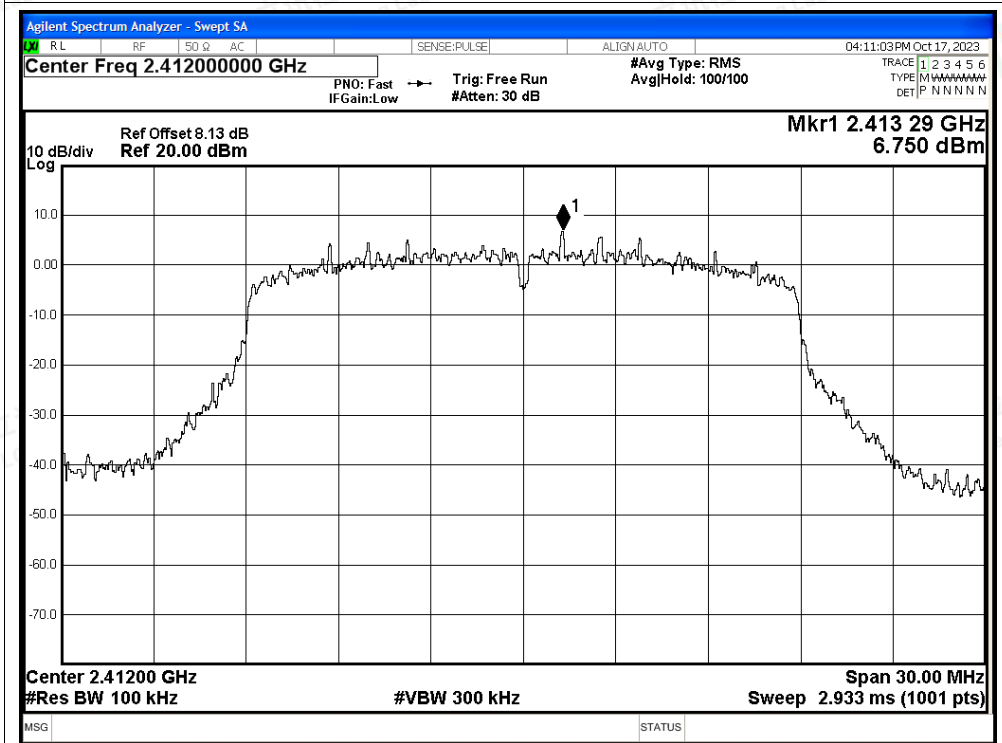


Band Edge NVNT g-20M 2462MHz Ant0 Emission

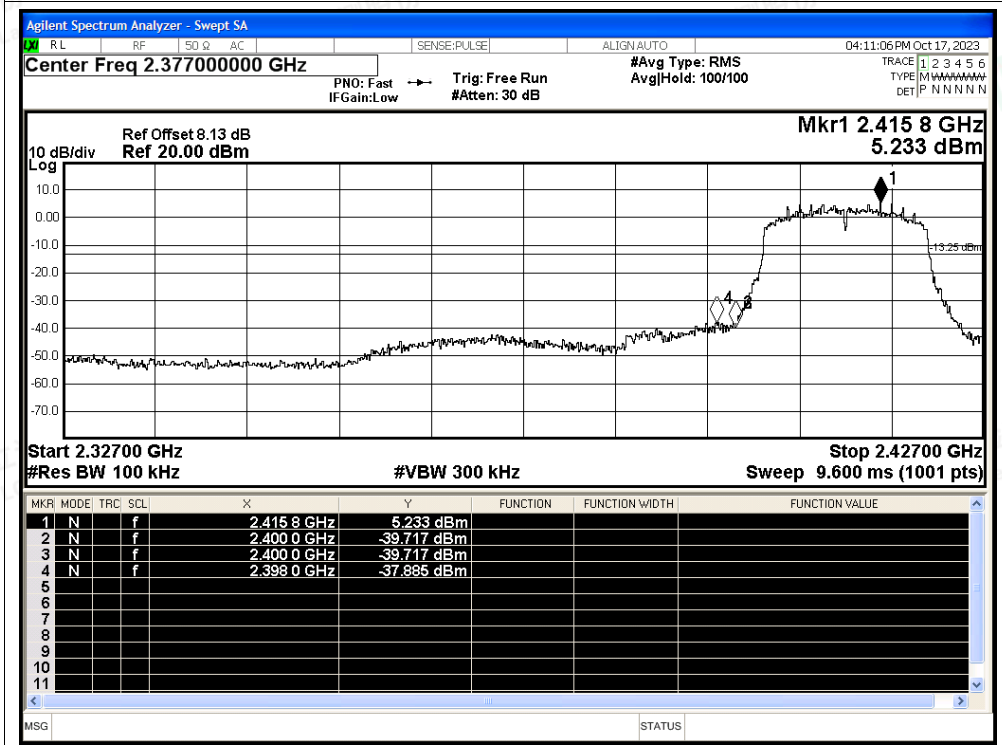




Band Edge NVNT n-20M 2412MHz Ant0 Ref

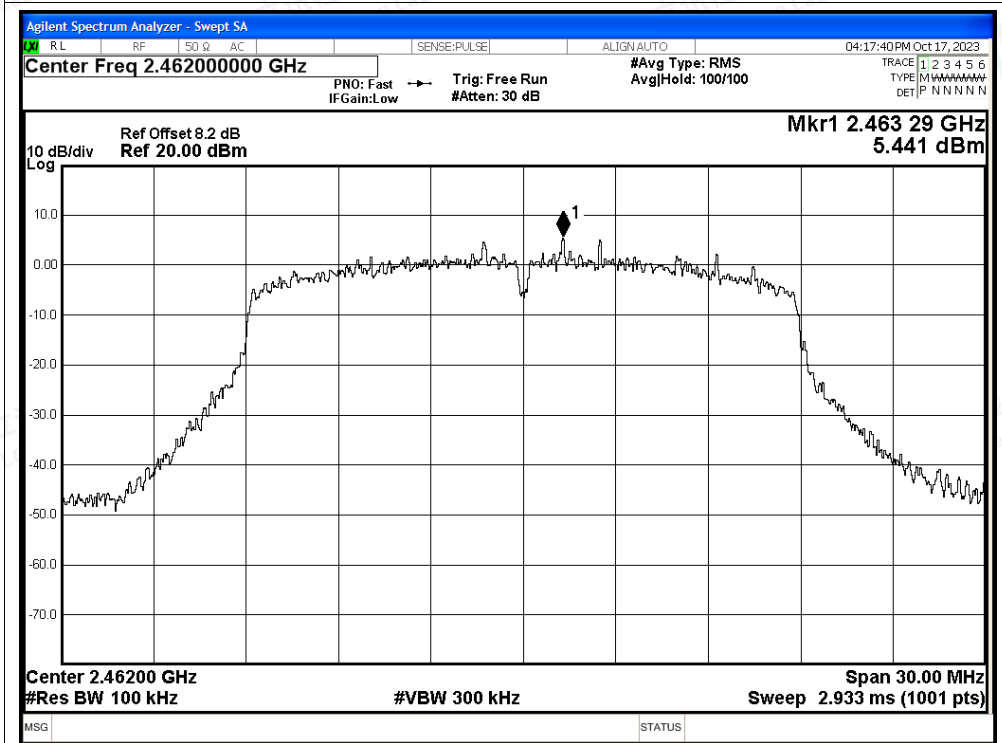


Band Edge NVNT n-20M 2412MHz Ant0 Emission

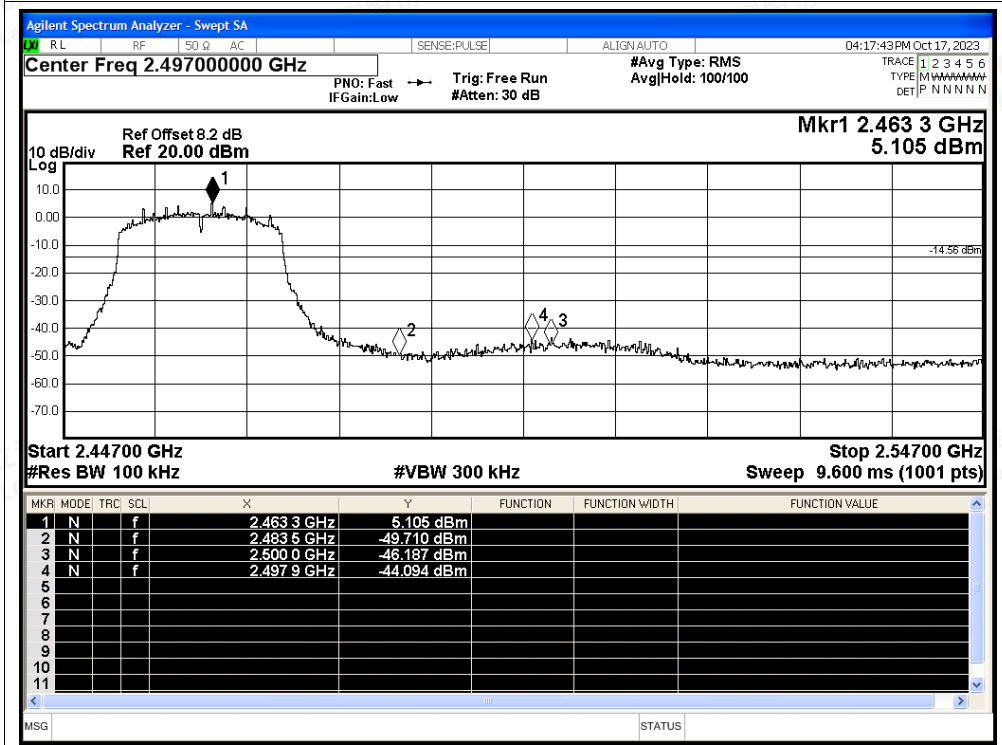




Band Edge NVNT n-20M 2462MHz Ant0 Ref

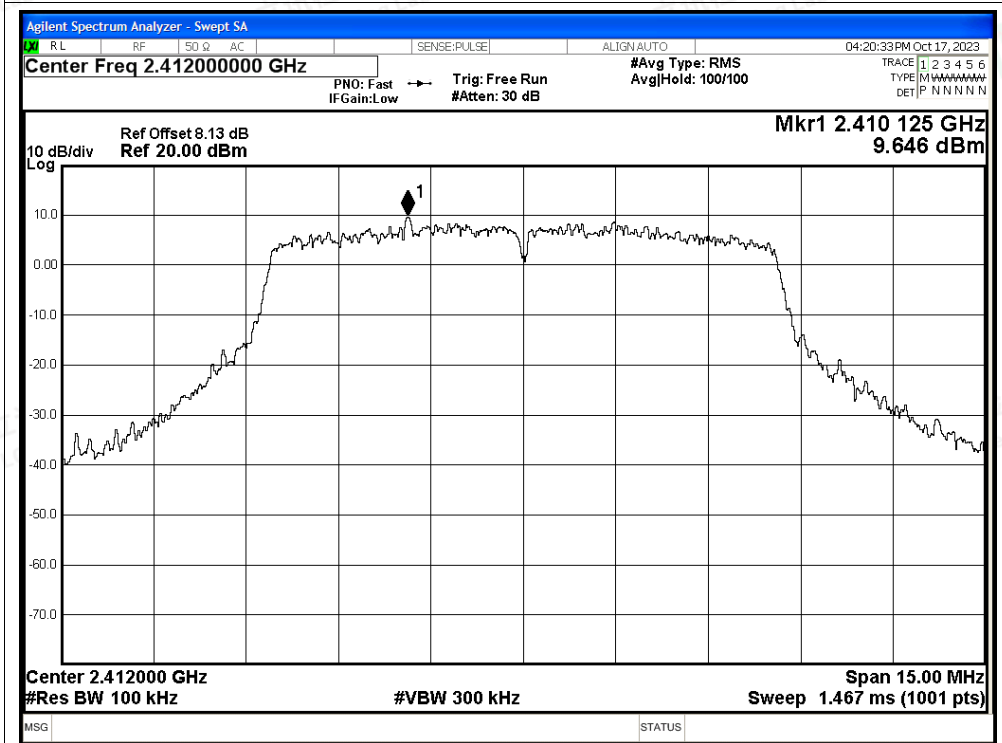


Band Edge NVNT n-20M 2462MHz Ant0 Emission

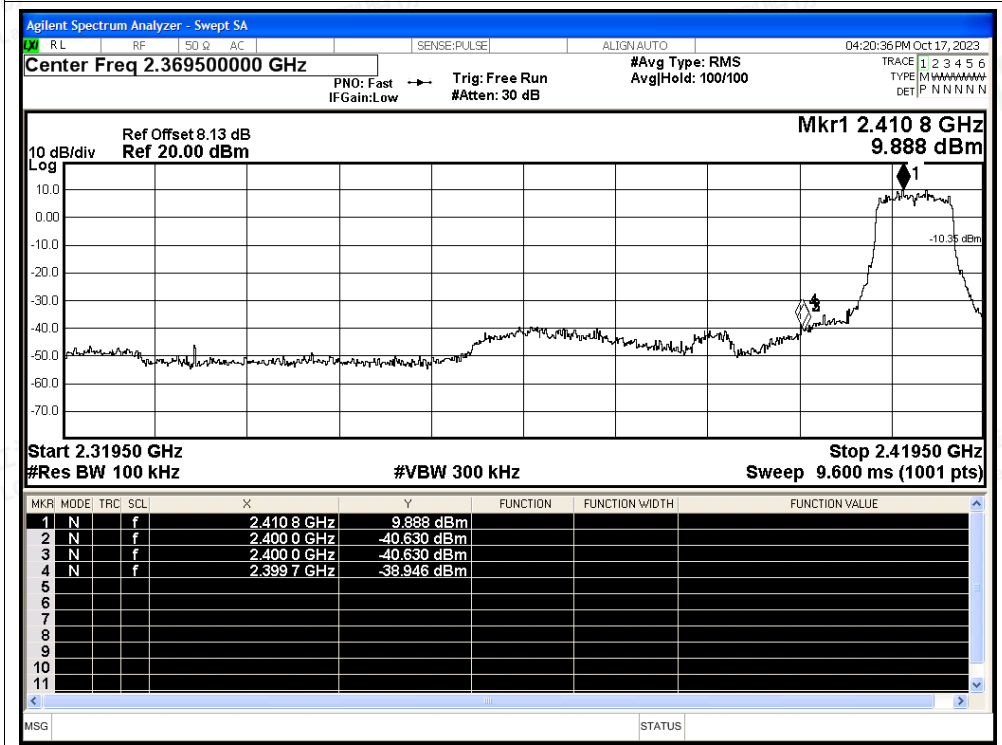




Band Edge NVNT g-10M 2412MHz Ant0 Ref

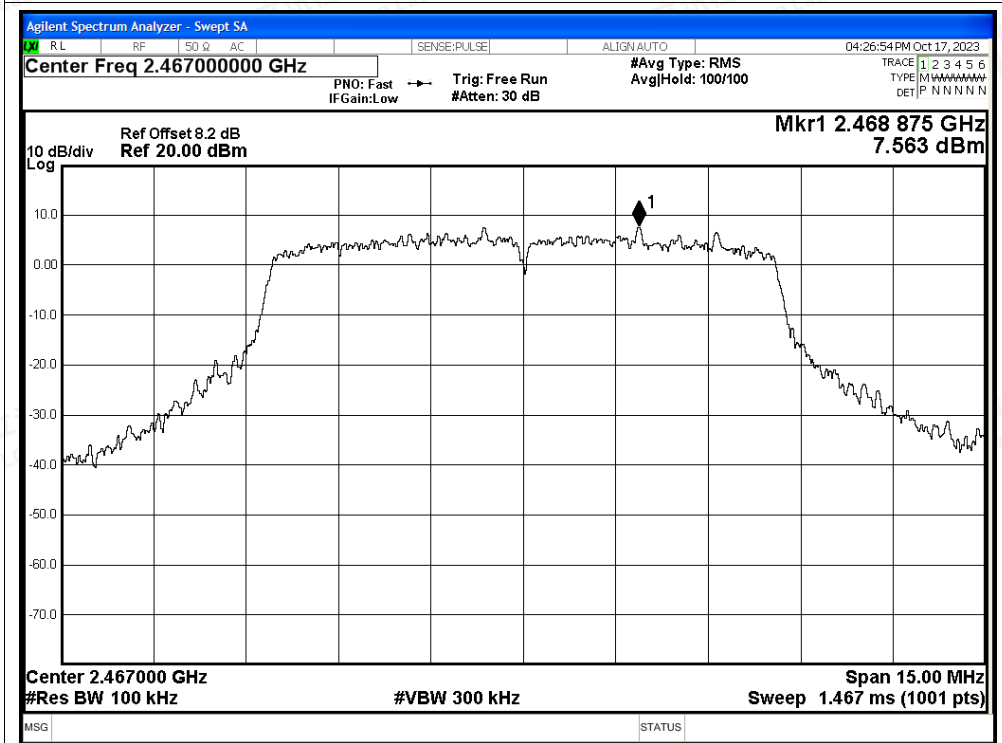


Band Edge NVNT g-10M 2412MHz Ant0 Emission

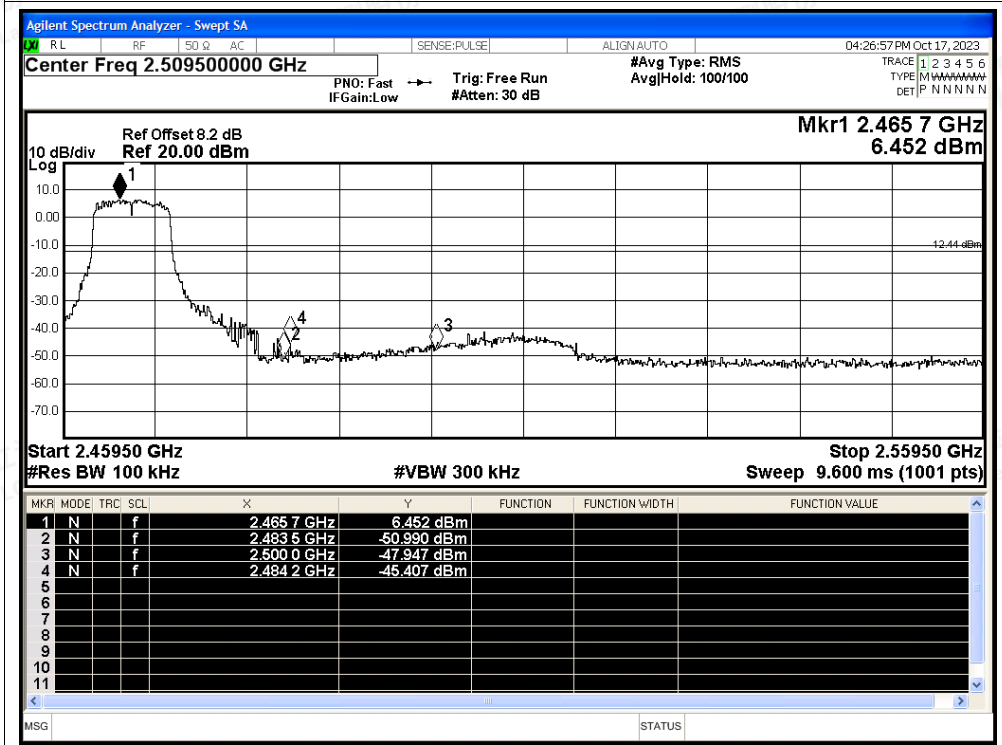




Band Edge NVNT g-10M 2467MHz Ant0 Ref

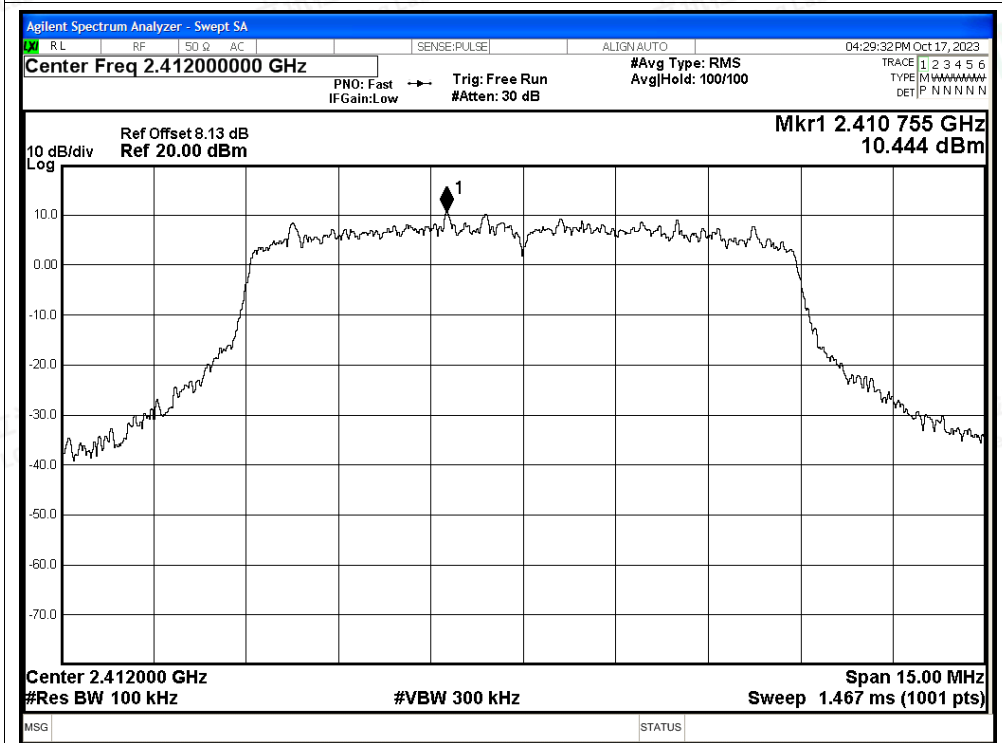


Band Edge NVNT g-10M 2467MHz Ant0 Emission

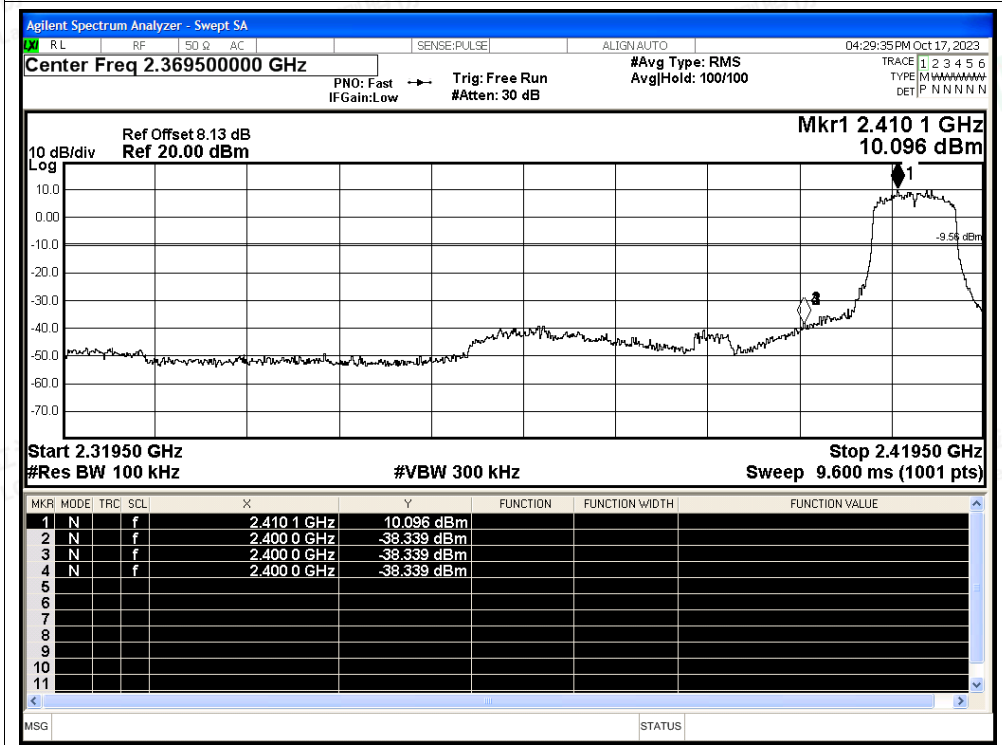




Band Edge NVNT n-10M 2412MHz Ant0 Ref

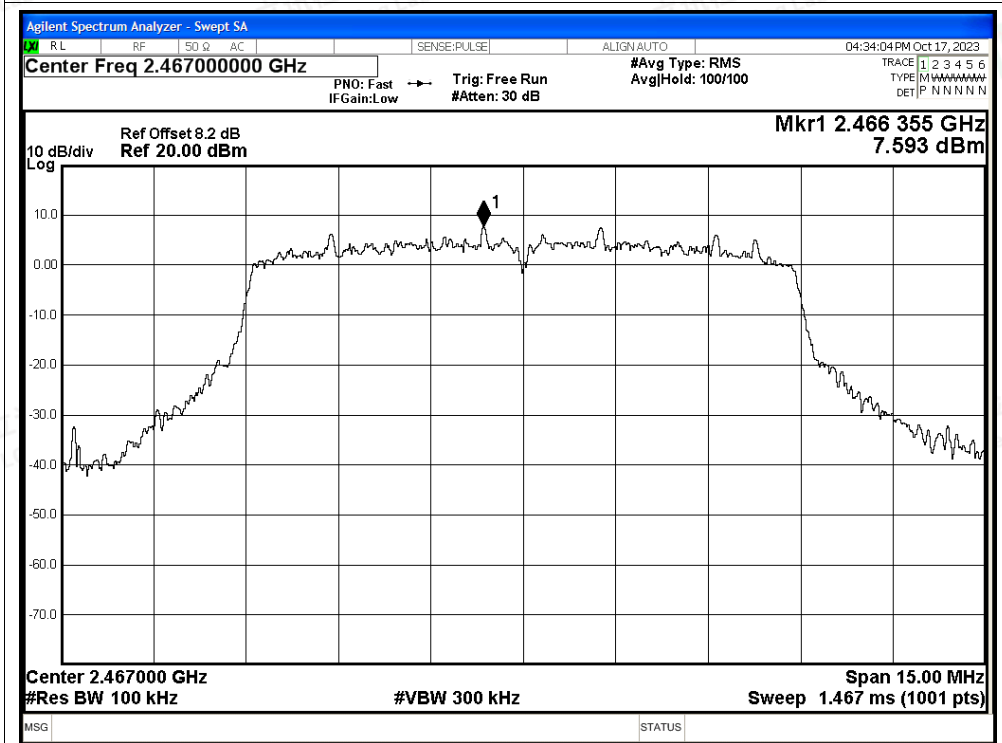


Band Edge NVNT n-10M 2412MHz Ant0 Emission

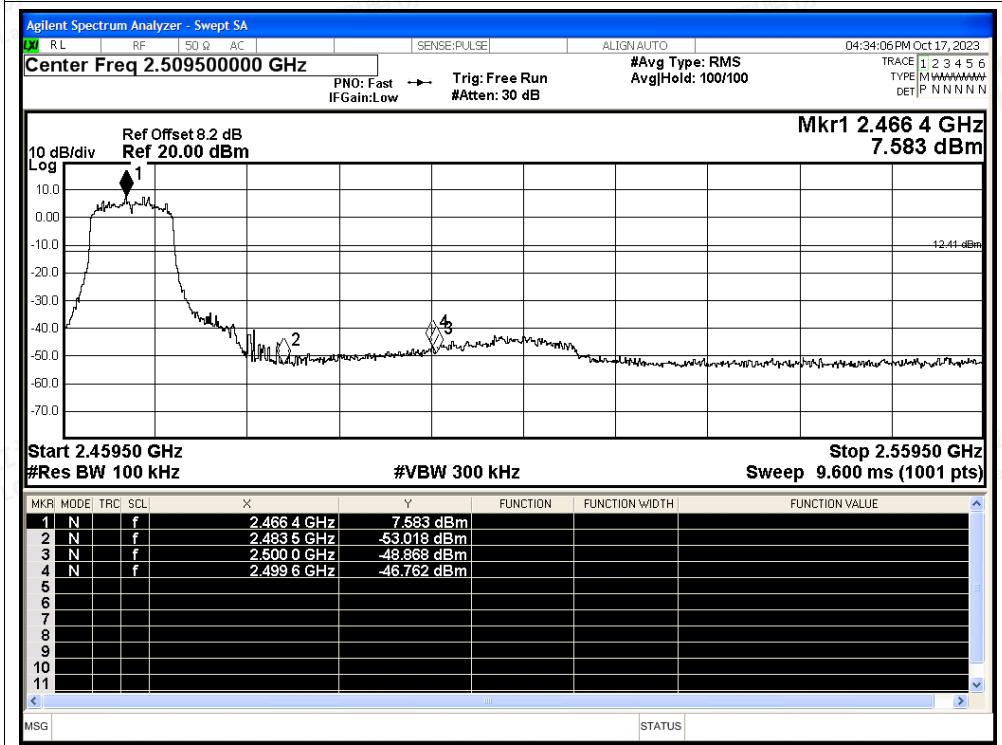




Band Edge NVNT n-10M 2467MHz Ant0 Ref



Band Edge NVNT n-10M 2467MHz Ant0 Emission





A.6 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	g-20M	2412	Ant0	-44.28	-20	Pass
NVNT	g-20M	2437	Ant0	-51.95	-20	Pass
NVNT	g-20M	2462	Ant0	-43.24	-20	Pass
NVNT	n-20M	2412	Ant0	-45.93	-20	Pass
NVNT	n-20M	2437	Ant0	-52.03	-20	Pass
NVNT	n-20M	2462	Ant0	-44.55	-20	Pass
NVNT	g-10M	2412	Ant0	-49.27	-20	Pass
NVNT	g-10M	2437	Ant0	-52.72	-20	Pass
NVNT	g-10M	2467	Ant0	-46.99	-20	Pass
NVNT	n-10M	2412	Ant0	-49.79	-20	Pass
NVNT	n-10M	2437	Ant0	-52.66	-20	Pass
NVNT	n-10M	2467	Ant0	-46.17	-20	Pass

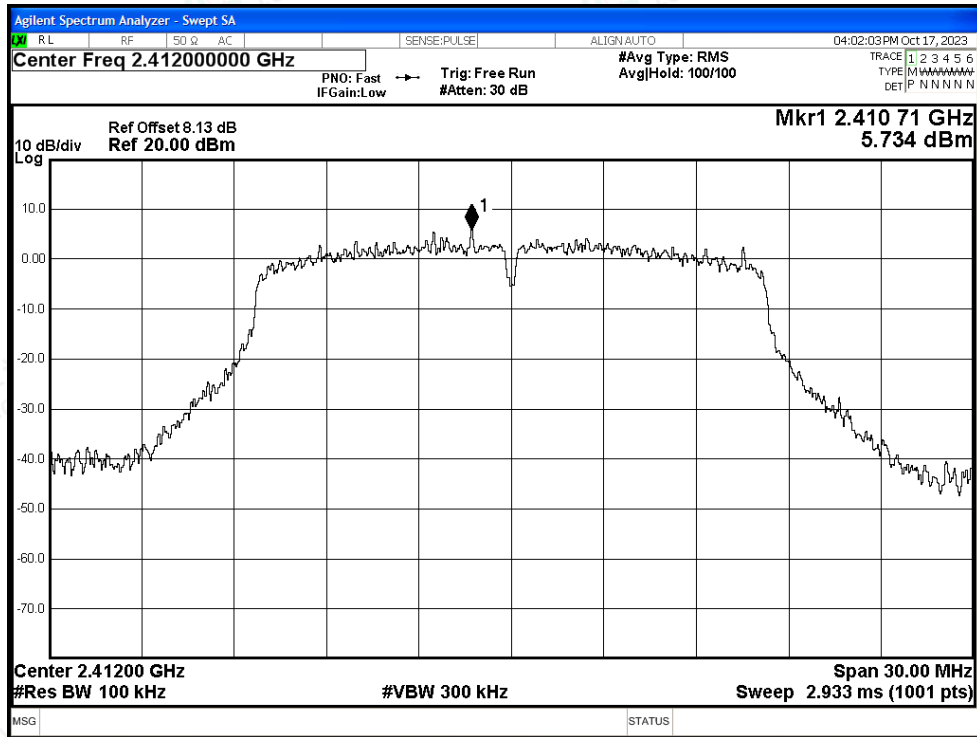


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Scan code to check authenticity

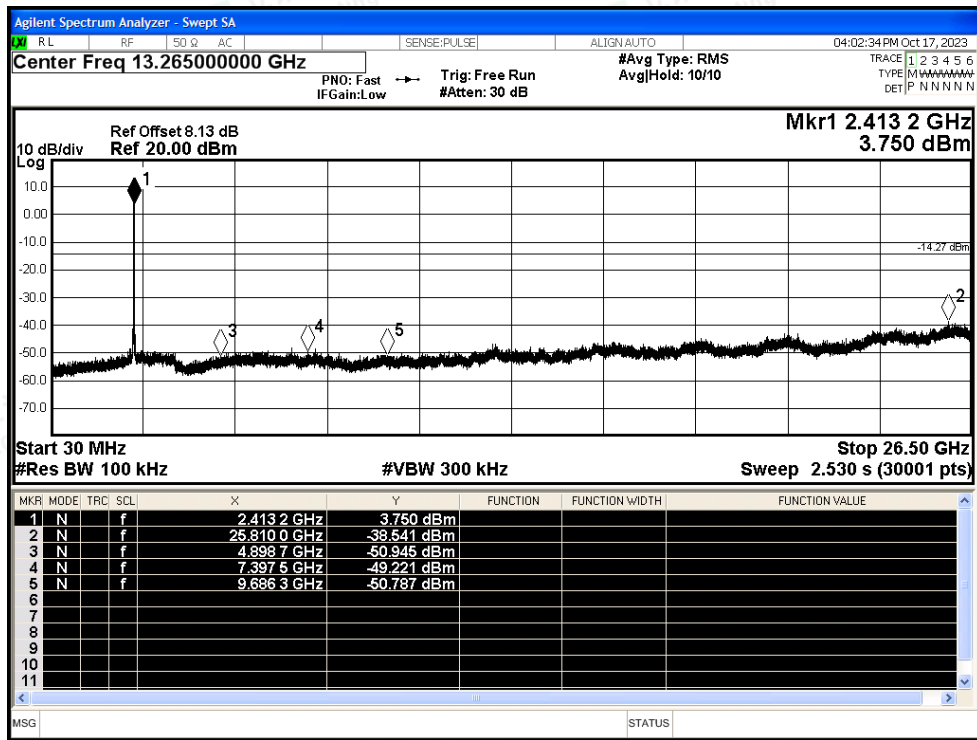


Test Graphs

Tx. Spurious NVNT g-20M 2412MHz Ant0 Ref

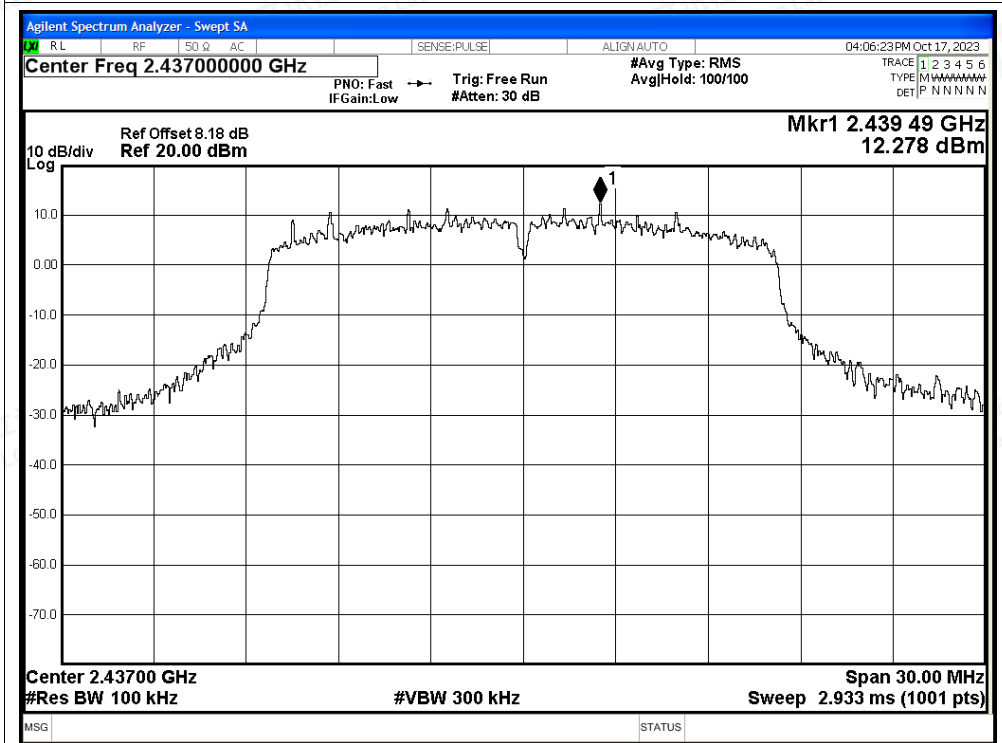


Tx. Spurious NVNT g-20M 2412MHz Ant0 Emission

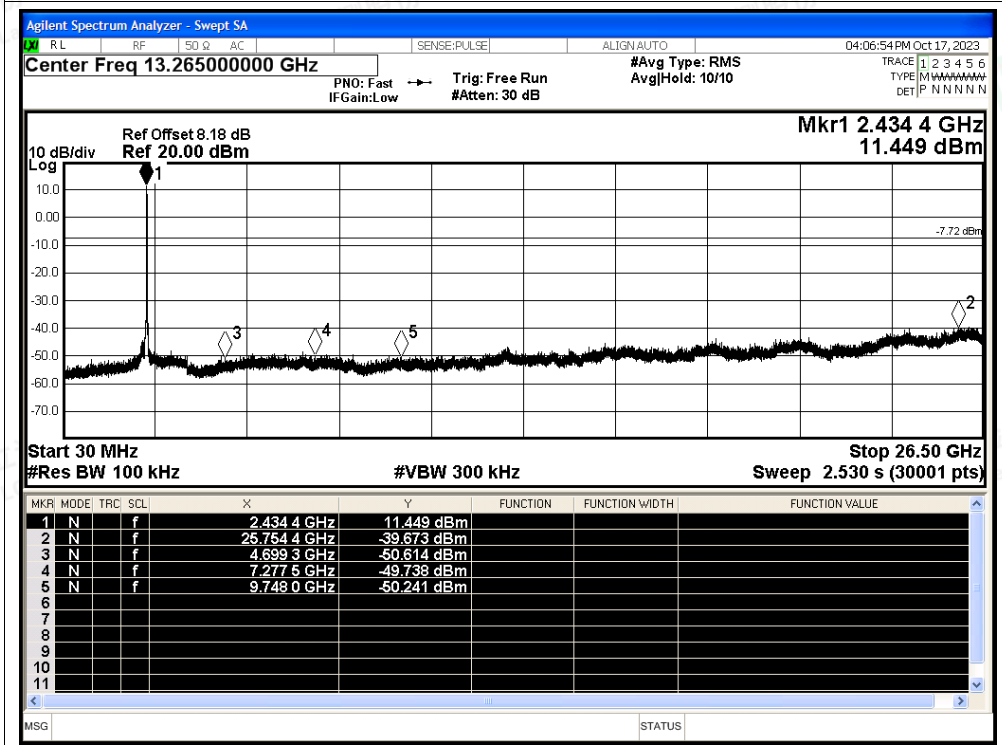




Tx. Spurious NVNT g-20M 2437MHz Ant0 Ref

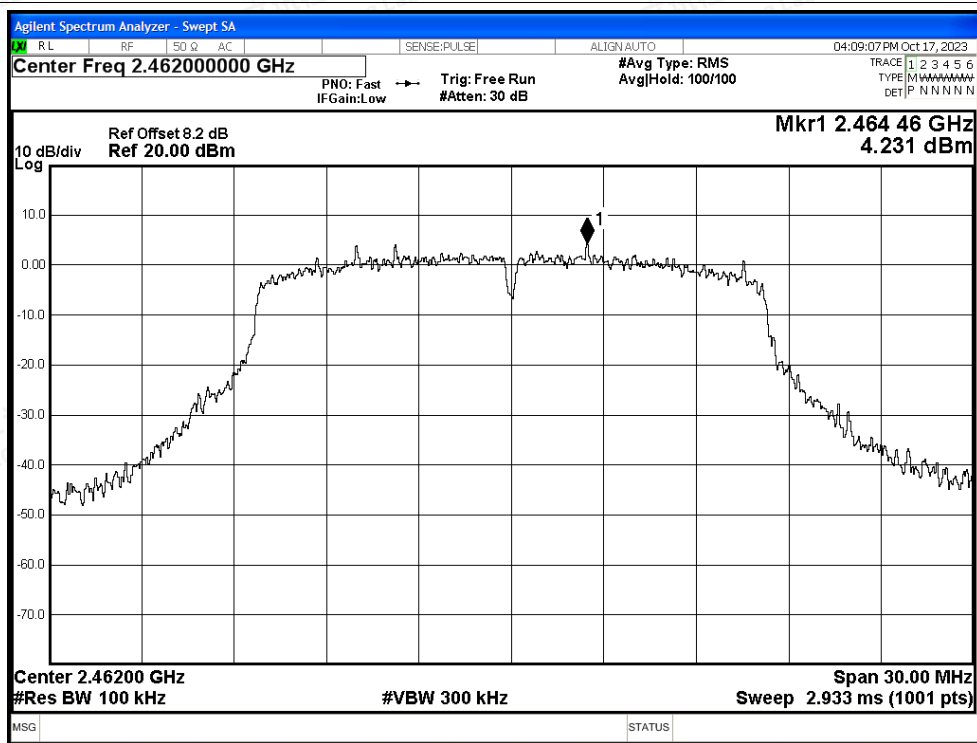


Tx. Spurious NVNT g-20M 2437MHz Ant0 Emission

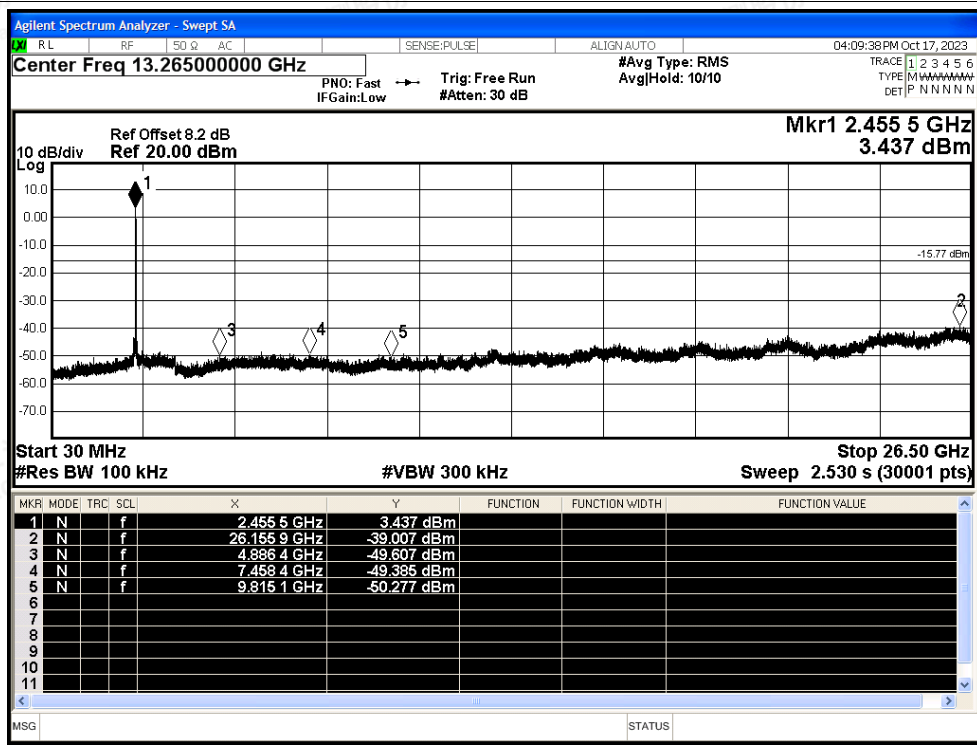




Tx. Spurious NVNT g-20M 2462MHz Ant0 Ref

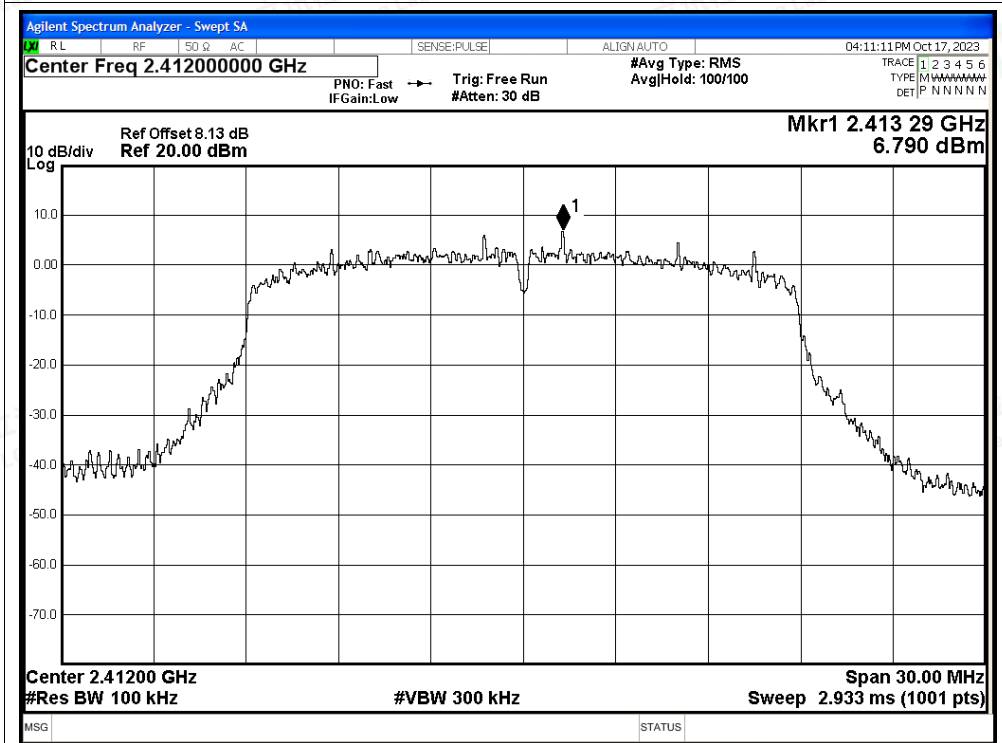


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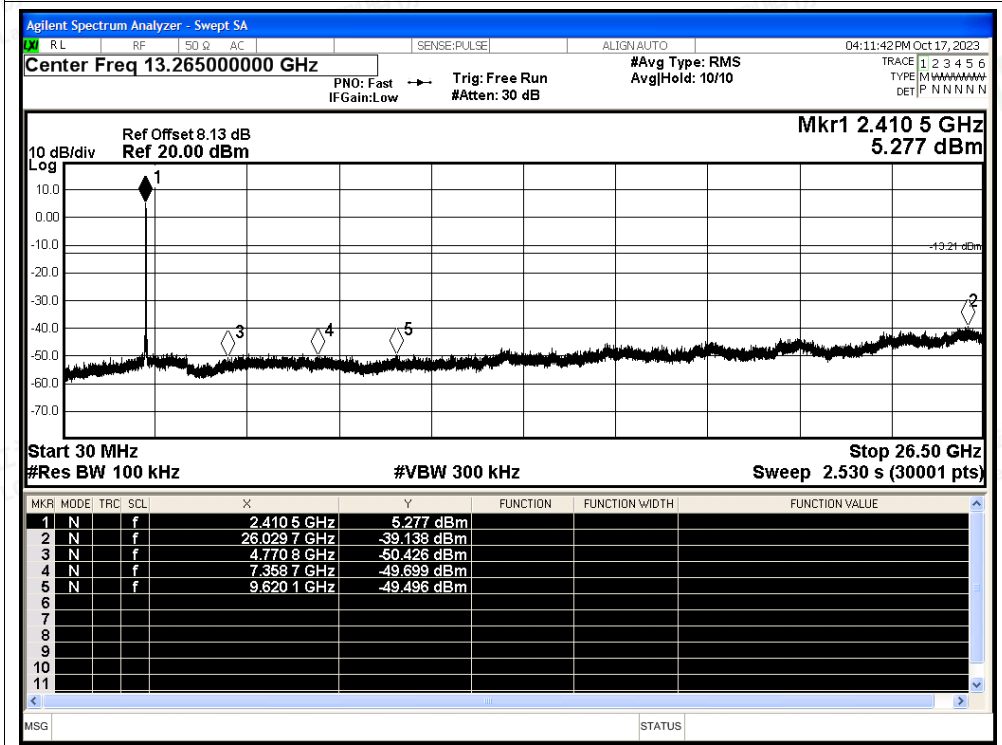




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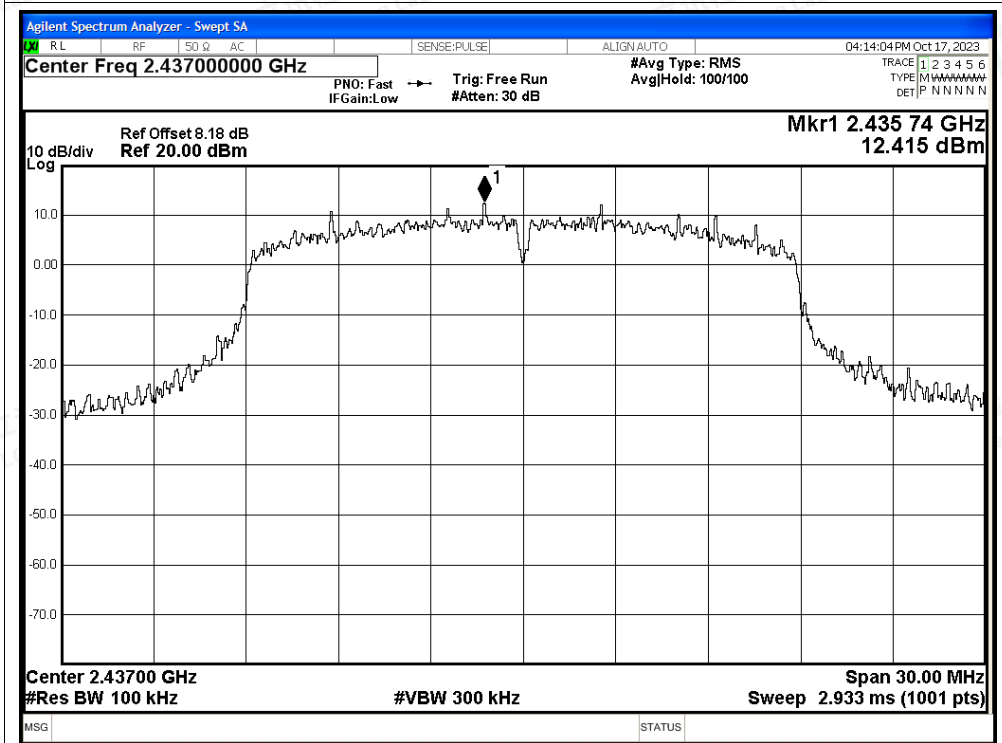


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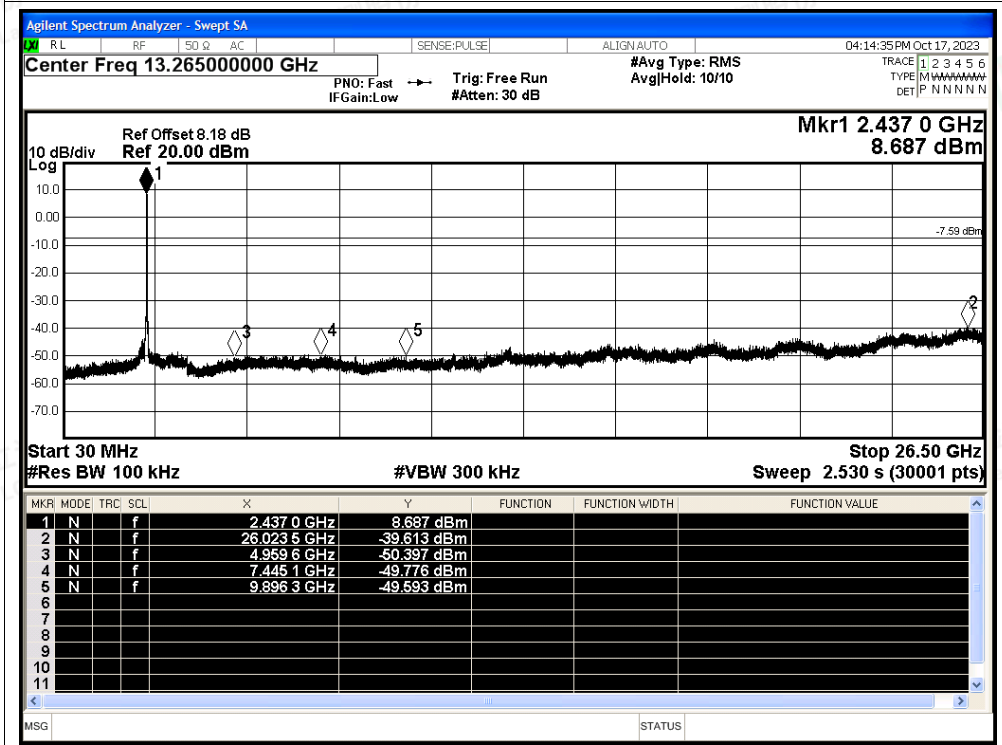




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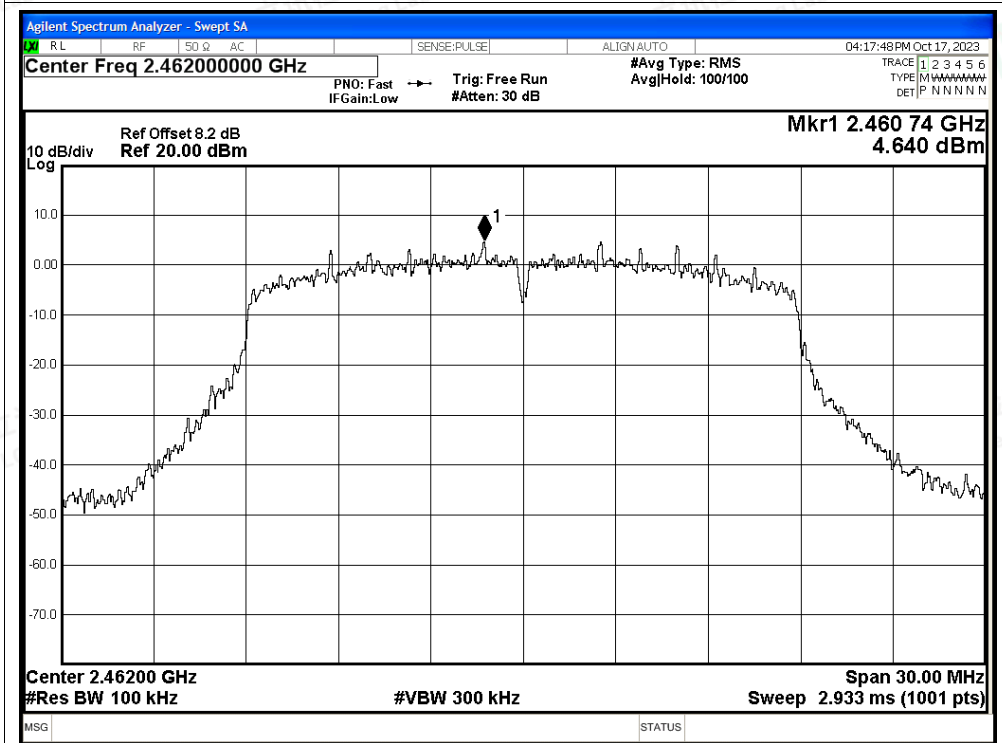


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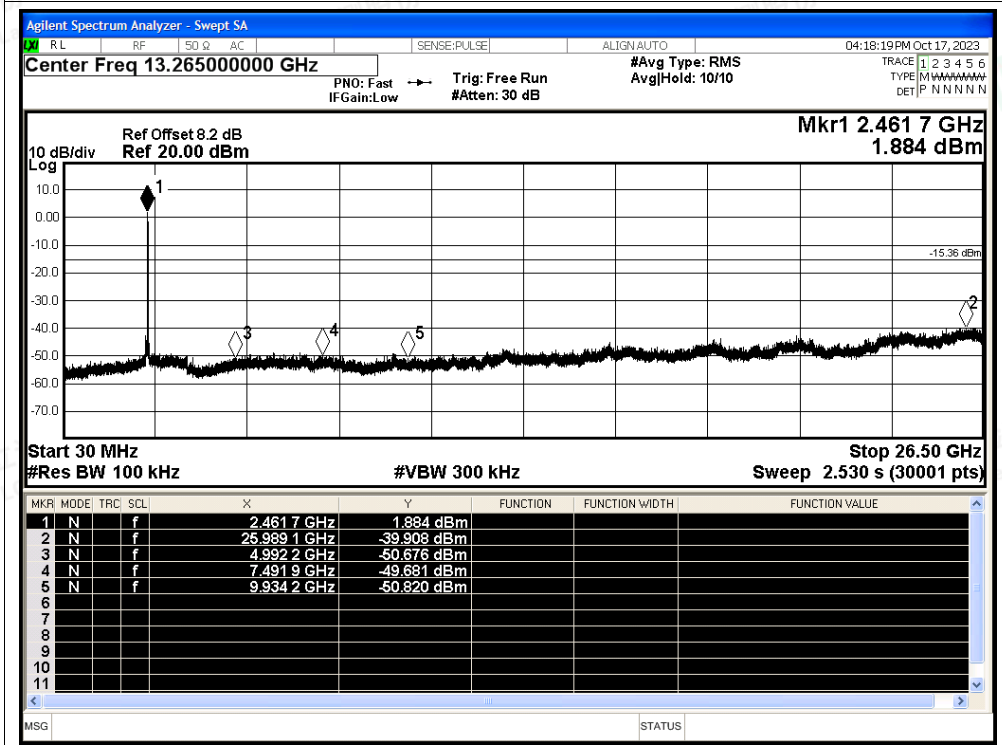




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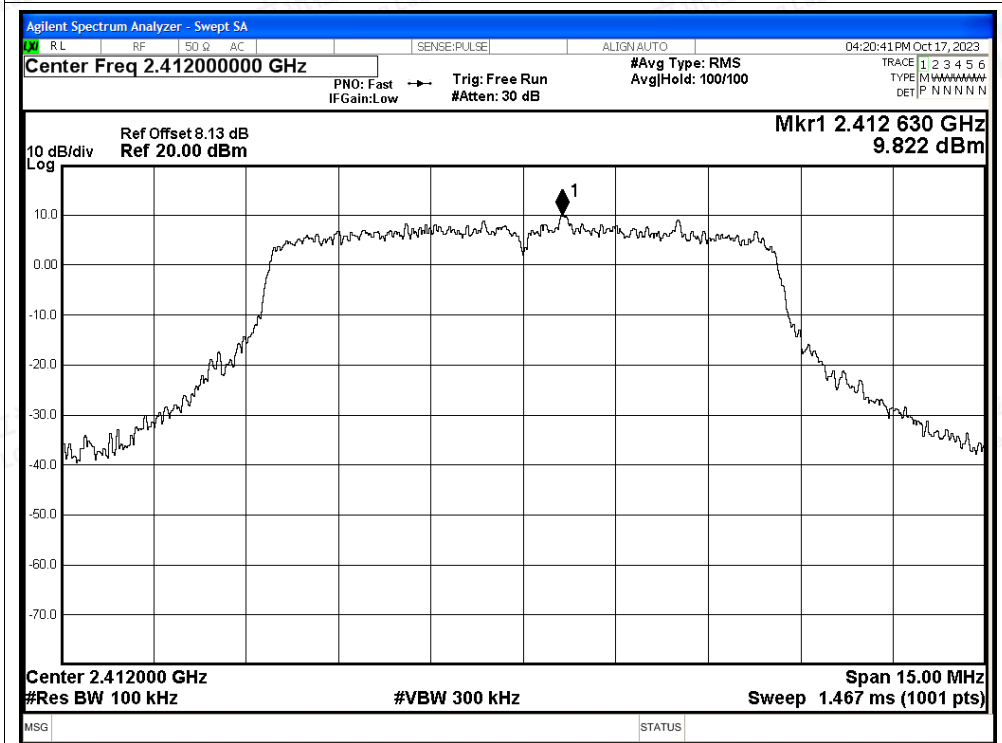


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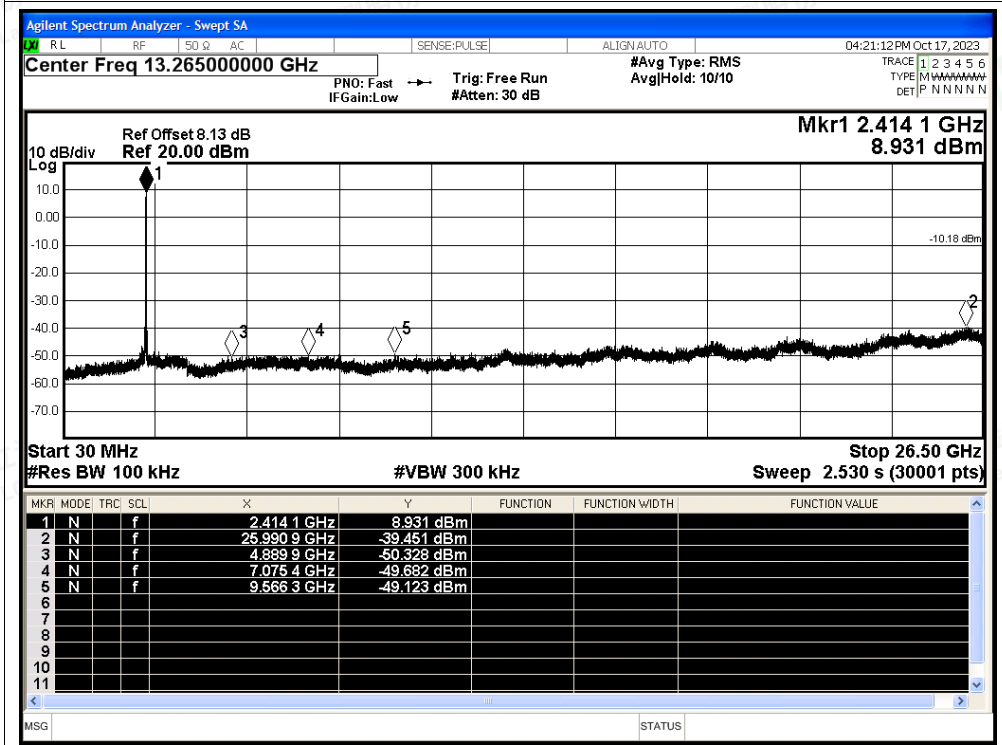




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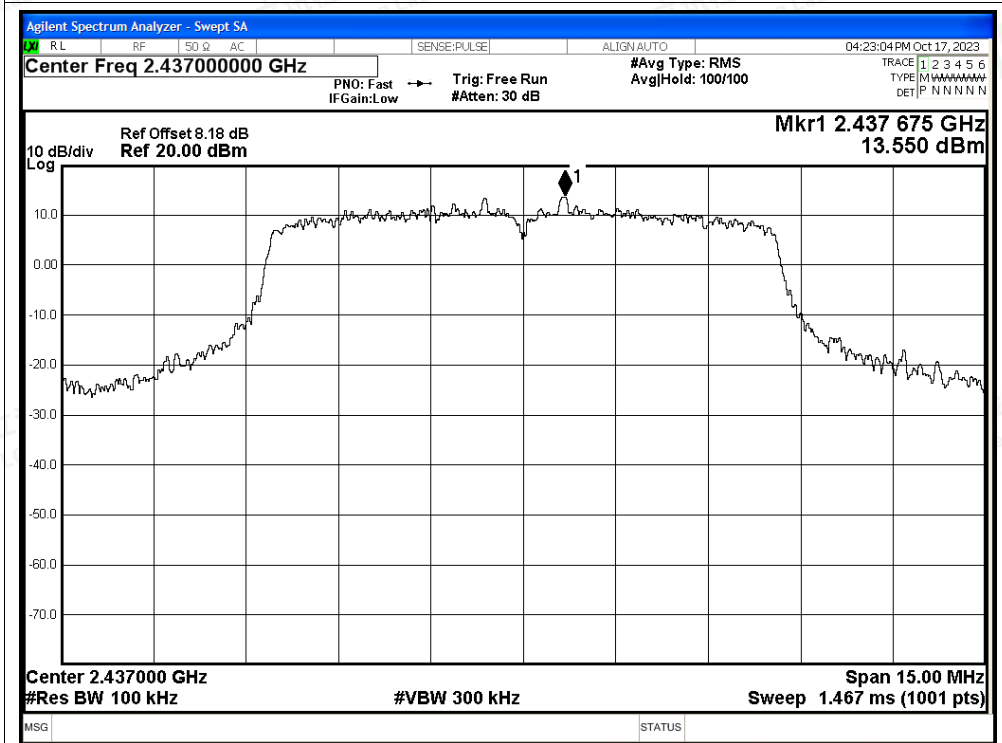


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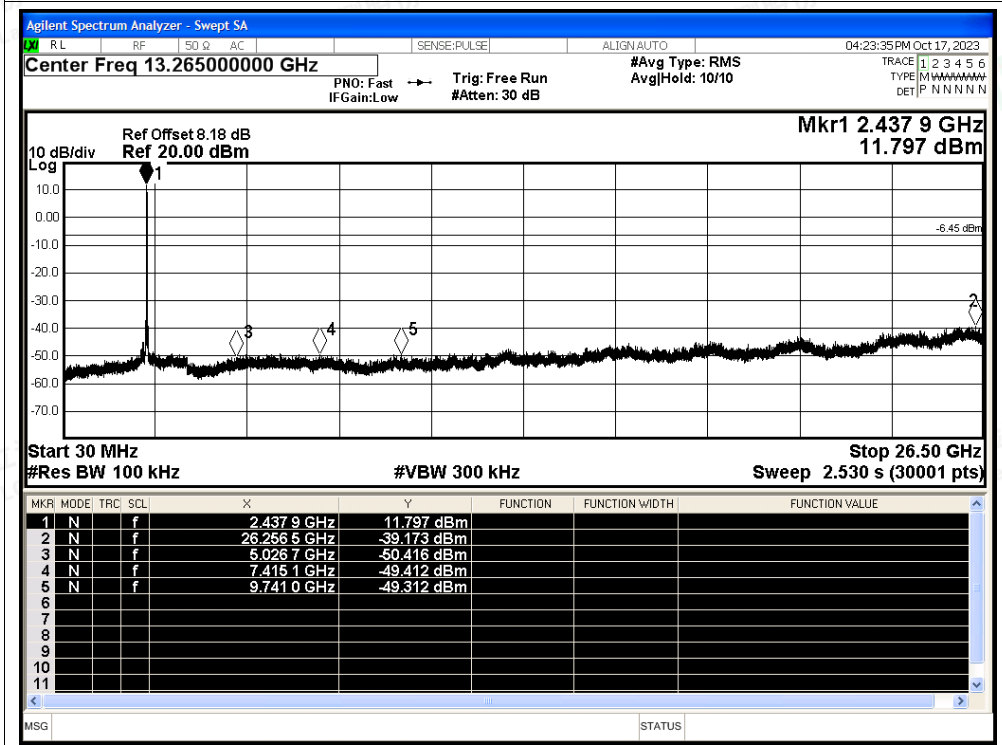




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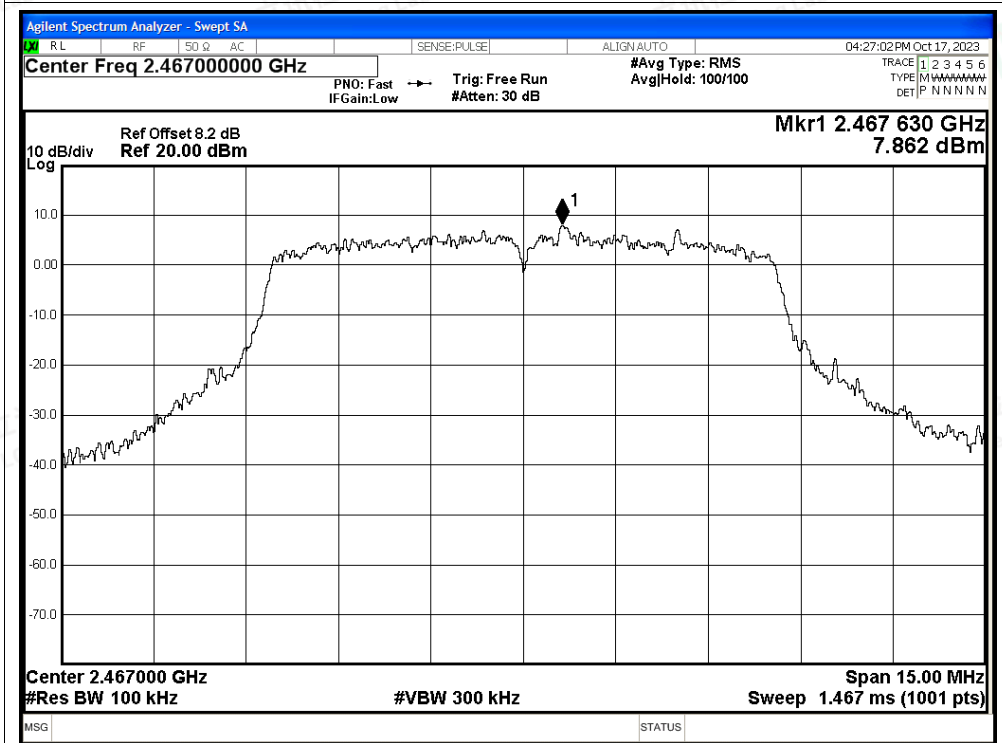


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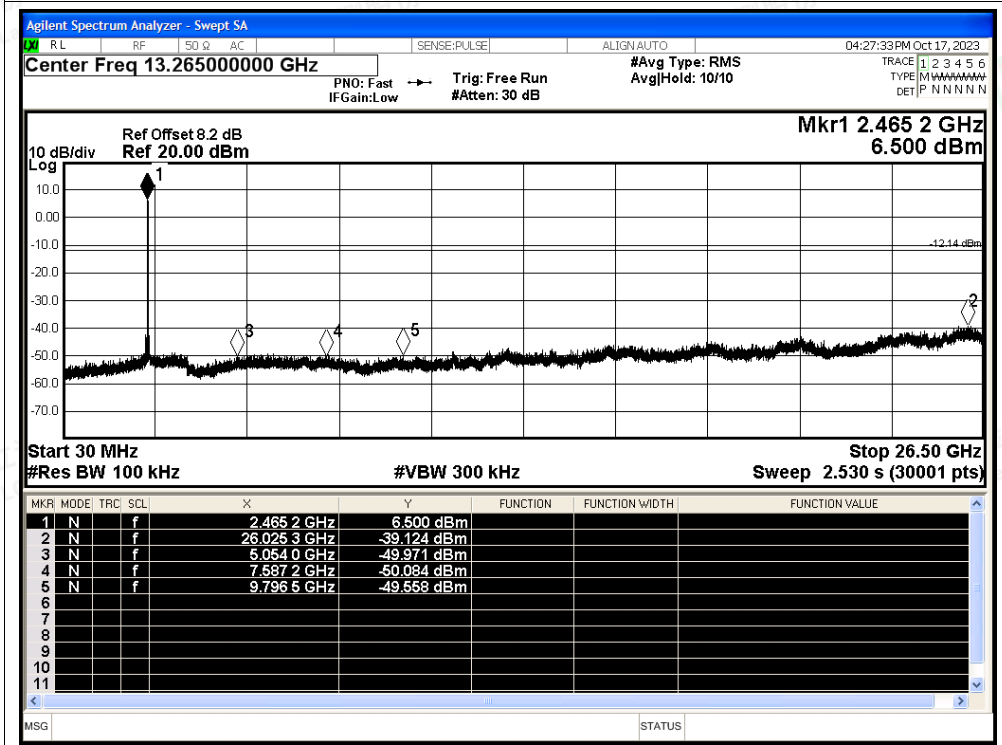




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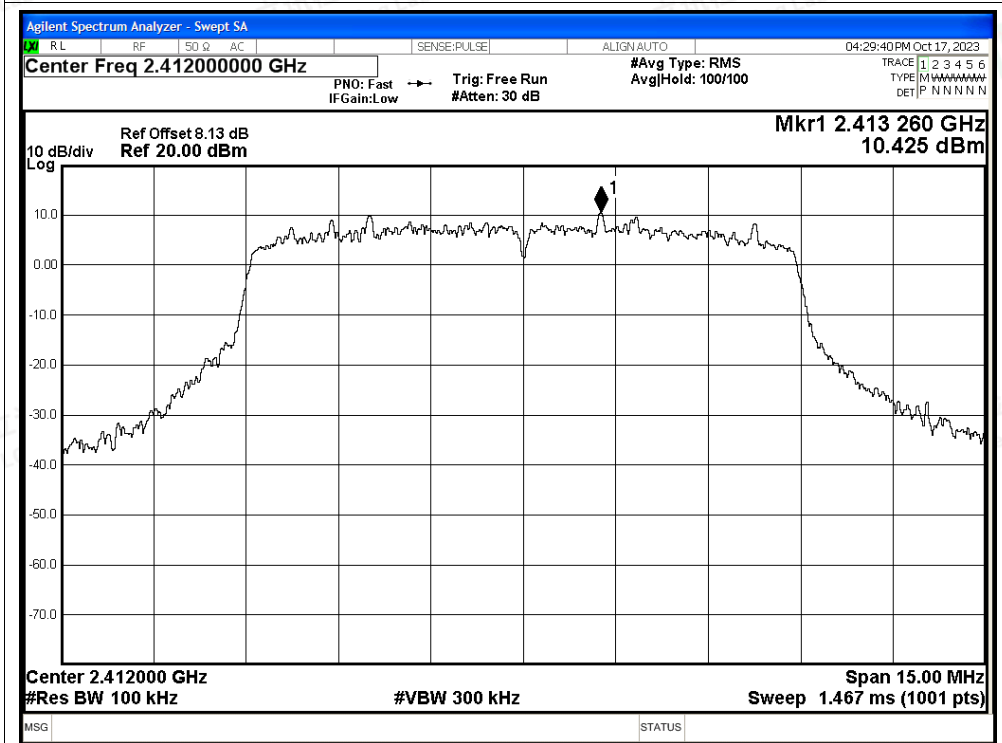


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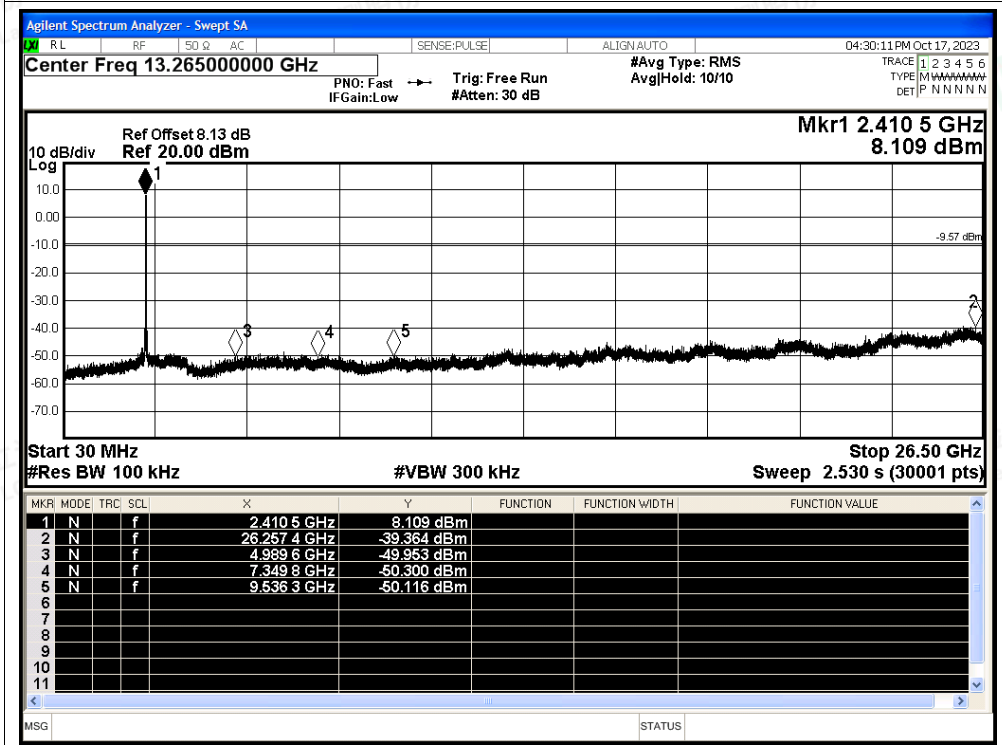




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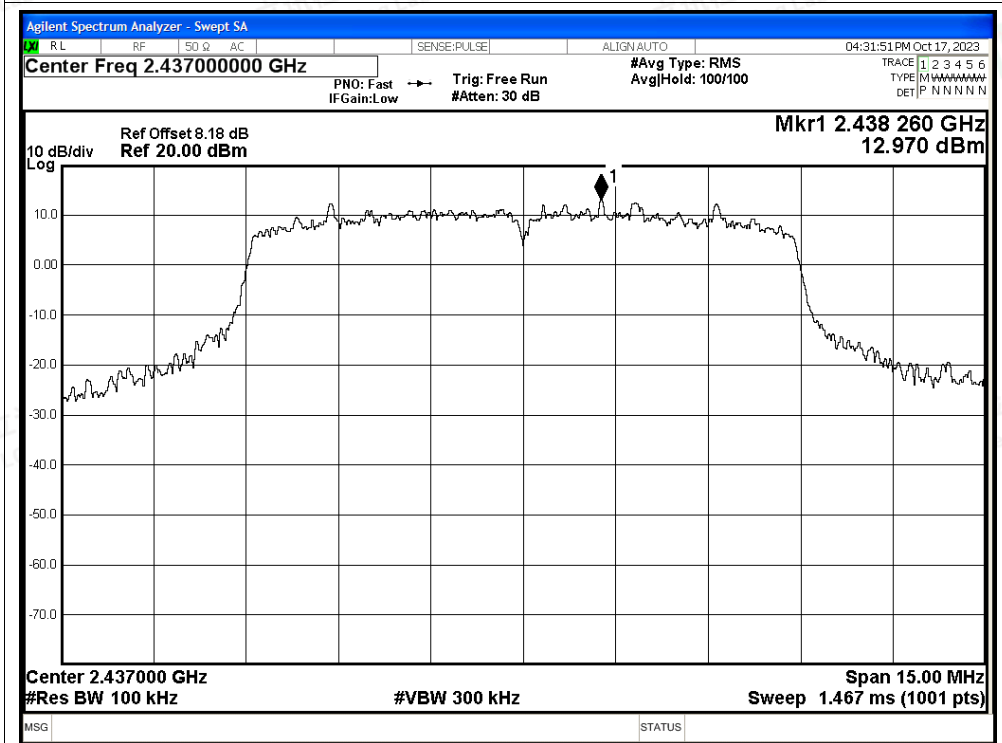


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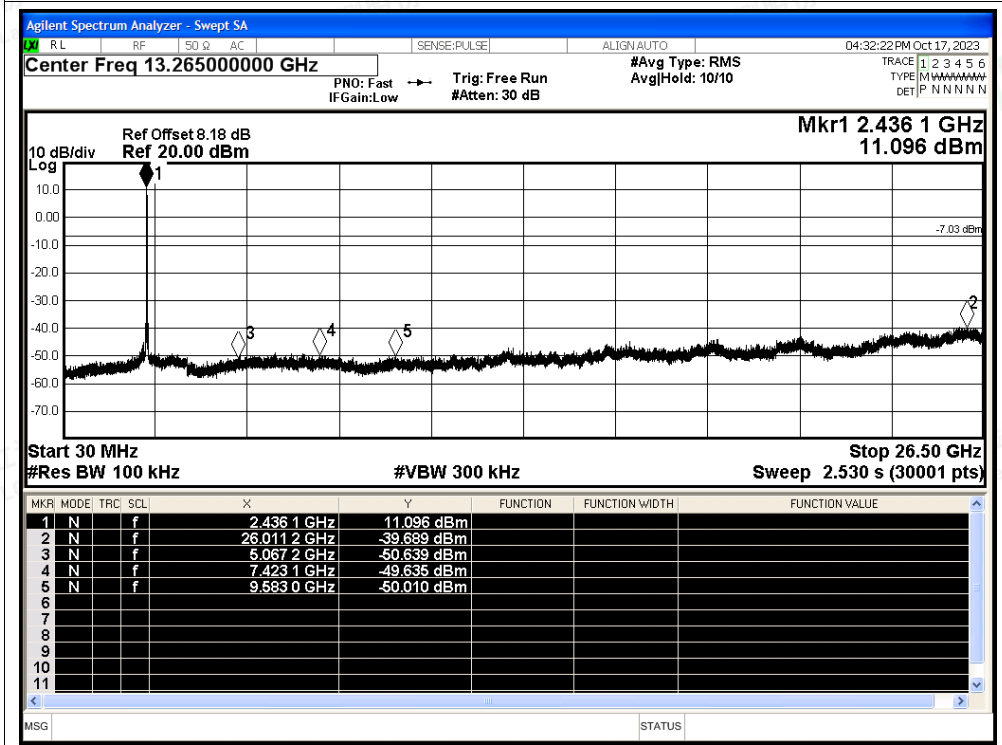




Tx. Spurious NVNT n-10M 2437MHz Ant0 Ref

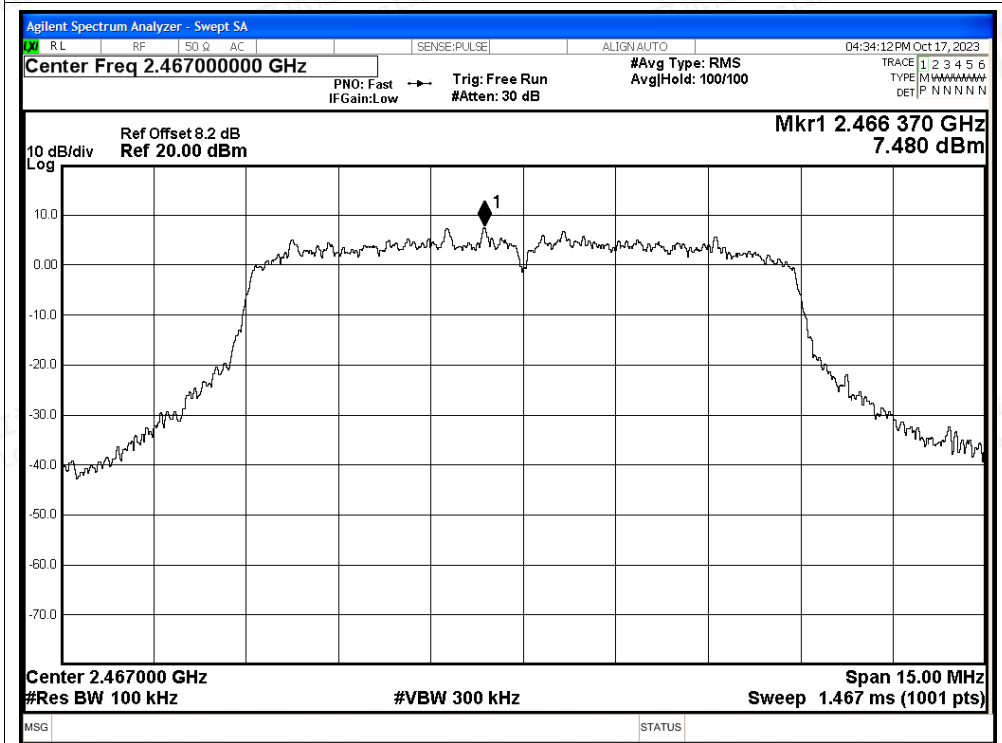


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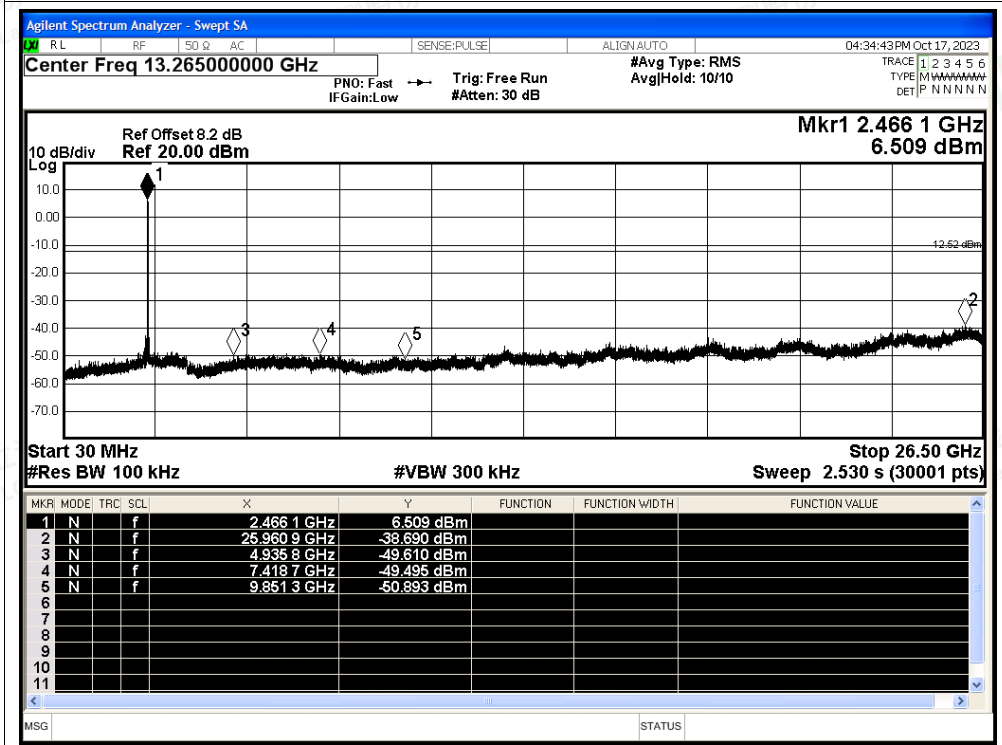




Tx. Spurious NVNT n-10M 2467MHz Ant0 Ref



Tx. Spurious NVNT n-10M 2467MHz Ant0 Emission





A.7 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	g-20M	2412	Ant0	97.02	0.13	0.61
NVNT	g-20M	2437	Ant0	97.14	0.13	0.61
NVNT	g-20M	2462	Ant0	97.14	0.13	0.61
NVNT	n-20M	2412	Ant0	97.69	0.1	0.66
NVNT	n-20M	2437	Ant0	97.82	0.1	0.66
NVNT	n-20M	2462	Ant0	97.69	0.1	0.66
NVNT	g-10M	2412	Ant0	98.85	0	0.31
NVNT	g-10M	2437	Ant0	98.85	0	0.31
NVNT	g-10M	2467	Ant0	98.85	0	0.31
NVNT	n-10M	2412	Ant0	98.96	0	0.33
NVNT	n-10M	2437	Ant0	98.9	0	0.33
NVNT	n-10M	2467	Ant0	98.9	0	0.33

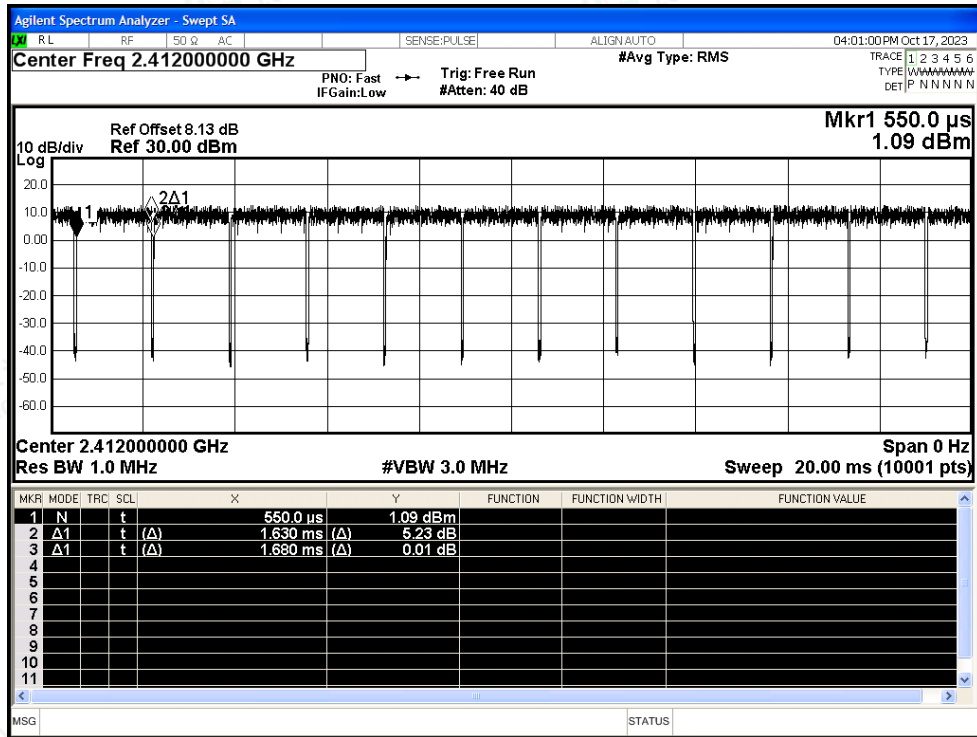


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

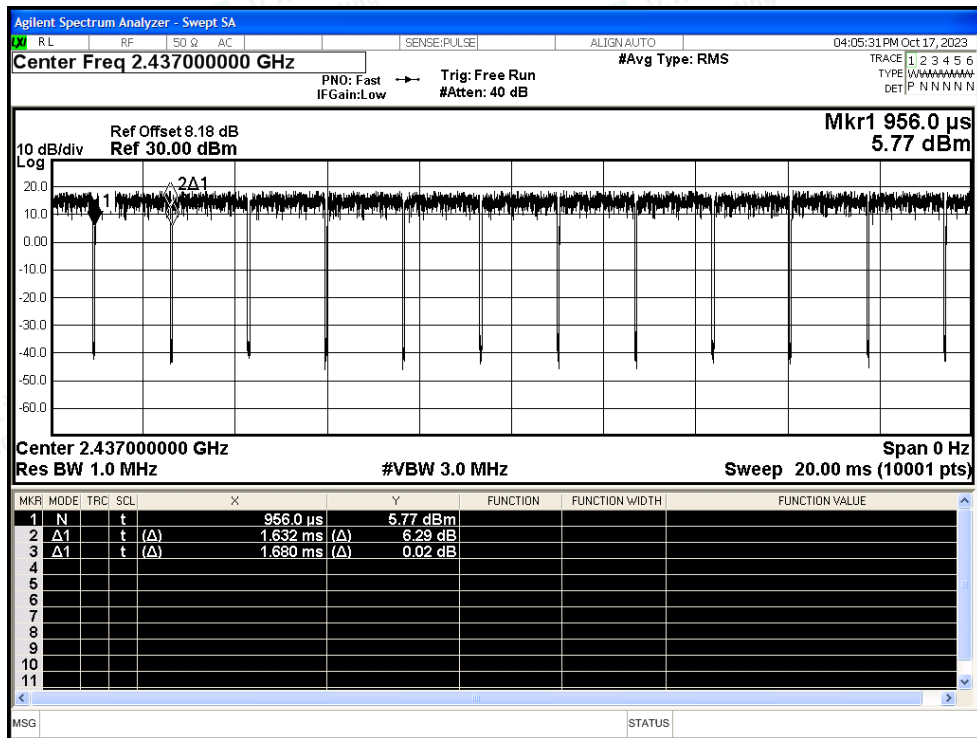


Test Graphs

Duty Cycle NVNT g-20M 2412MHz Ant0

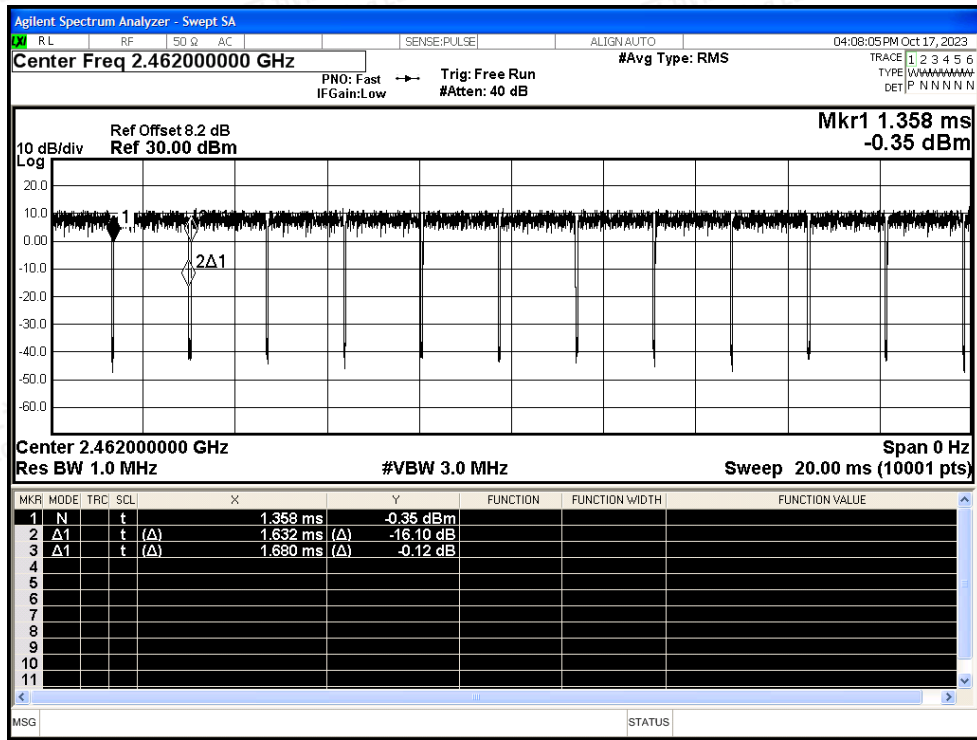


Duty Cycle NVNT g-20M 2437MHz Ant0

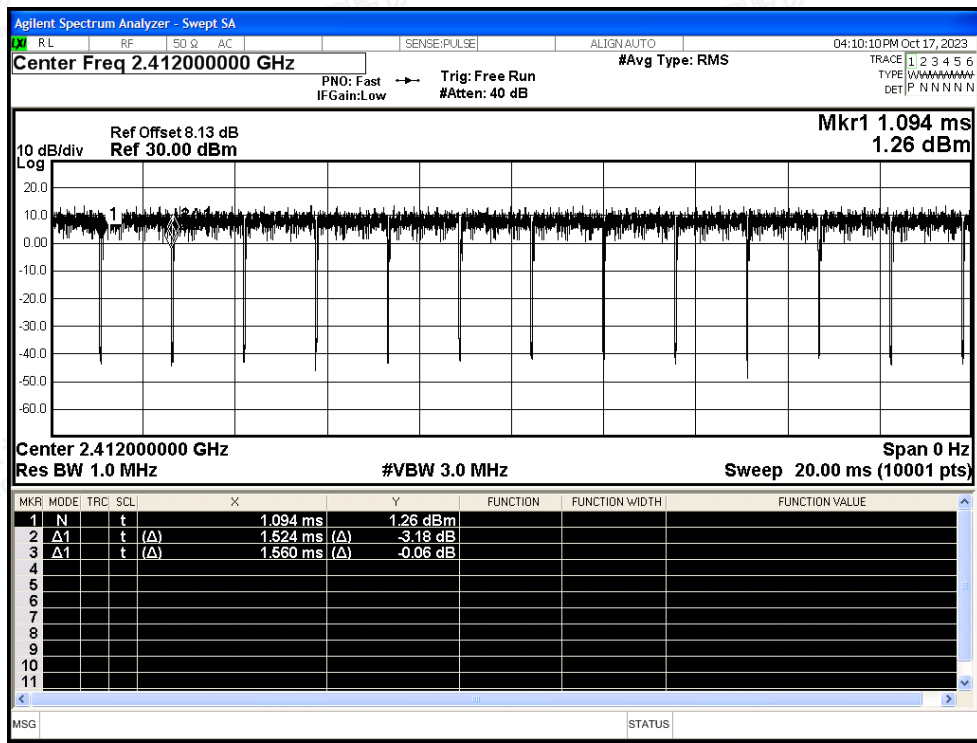




Duty Cycle NVNT g-20M 2462MHz Ant0

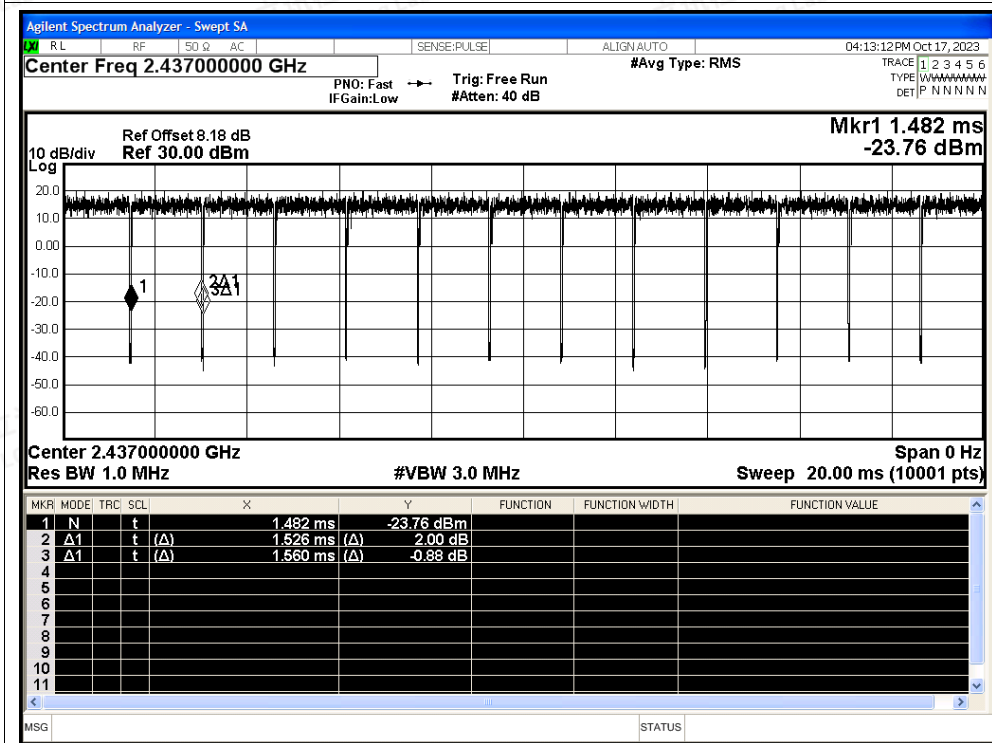


Duty Cycle NVNT n-20M 2412MHz Ant0

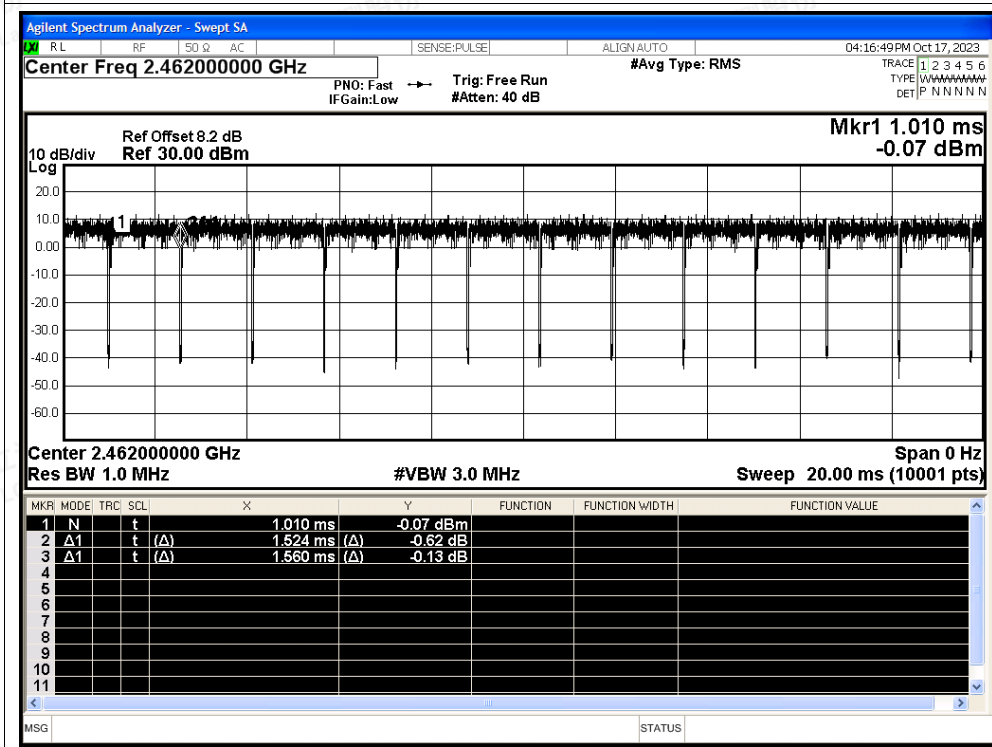




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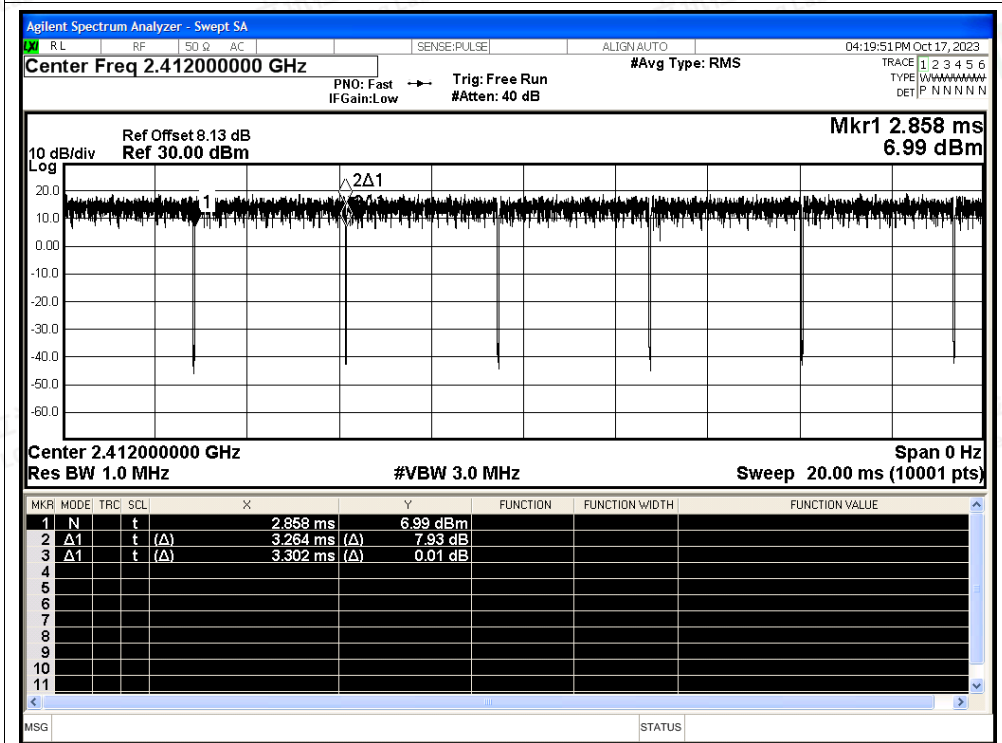


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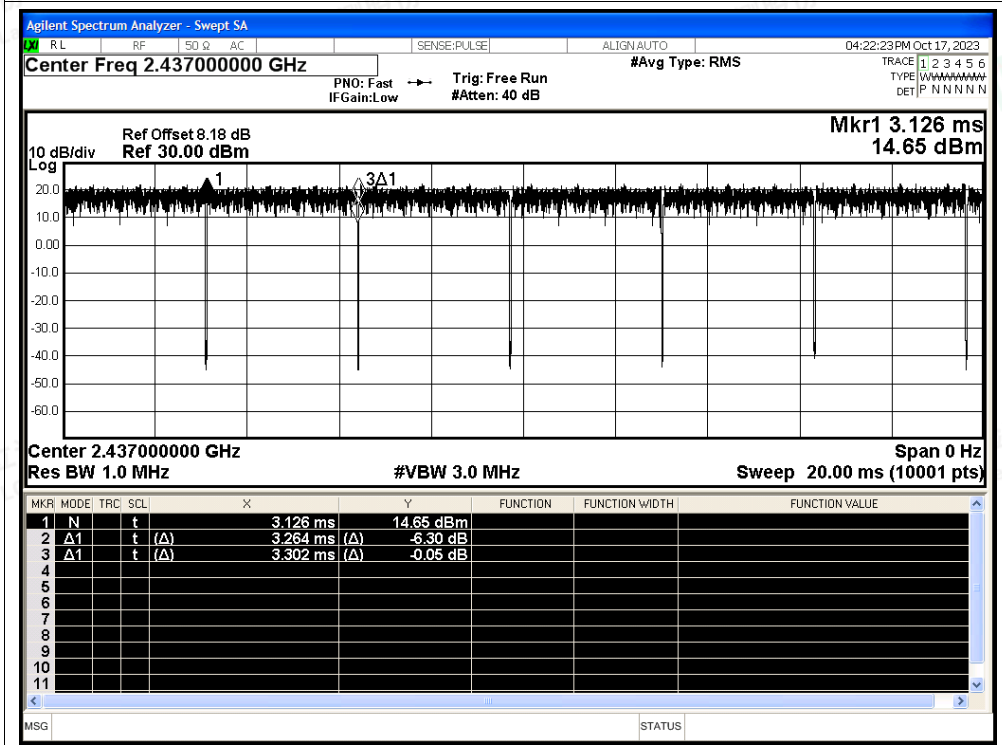




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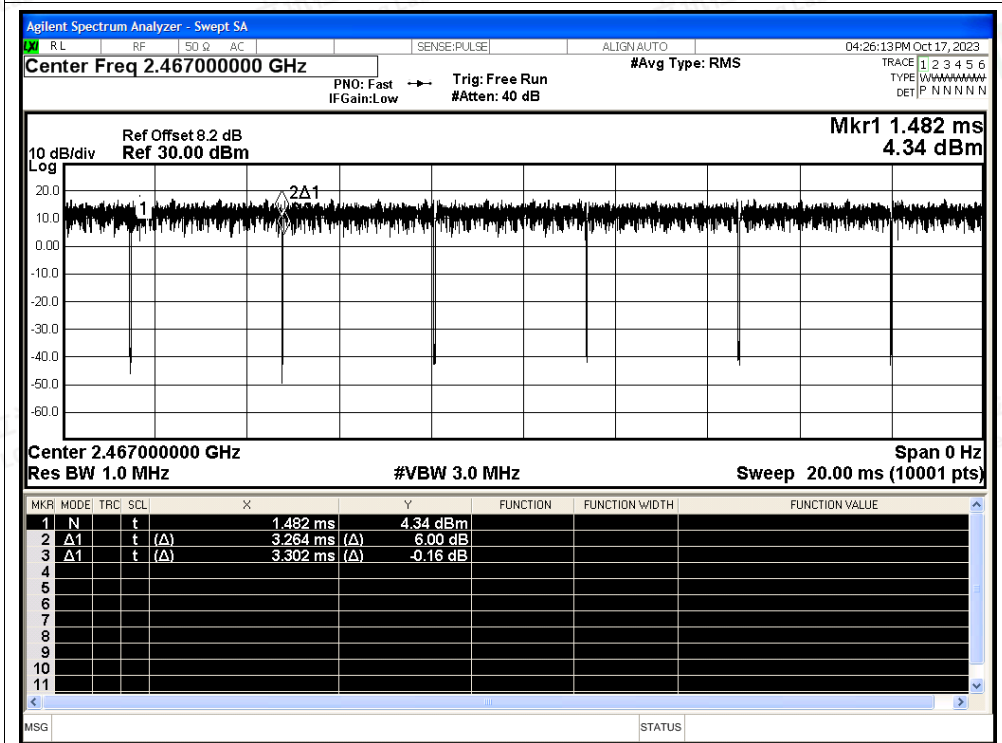


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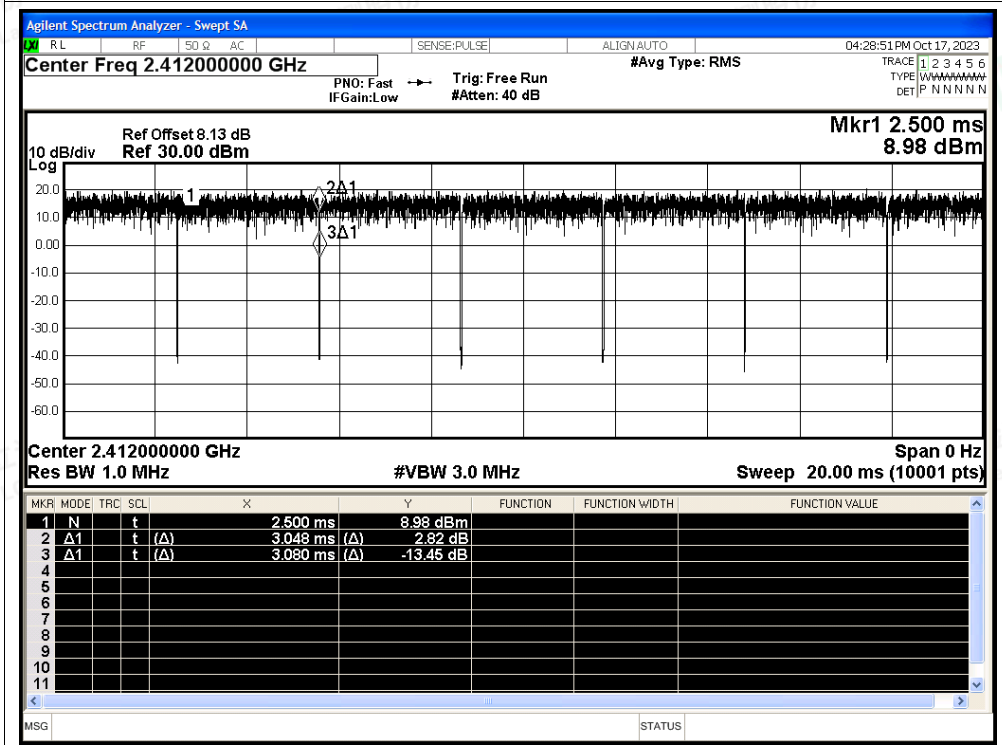




Duty Cycle NVNT g-10M 2467MHz Ant0

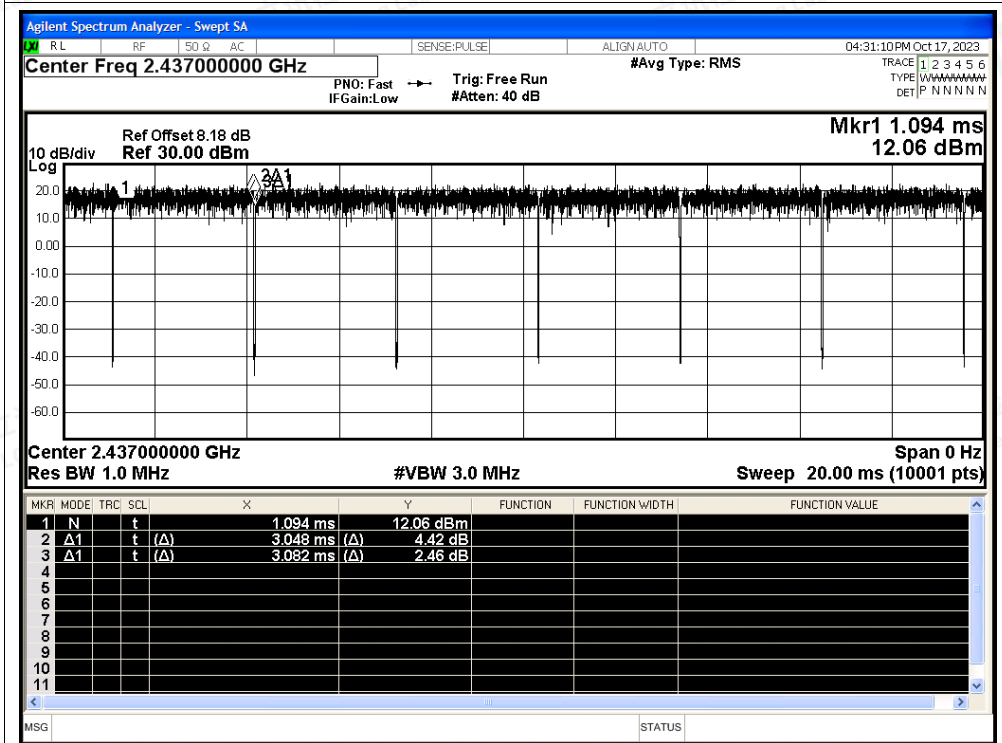


Duty Cycle NVNT n-10M 2412MHz Ant0





Duty Cycle NVNT n-10M 2437MHz Ant0



Duty Cycle NVNT n-10M 2467MHz Ant0

