



## Appendix B

### RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: SUUNTO RACE

Test Model: OW224

#### Environmental Conditions

Temperature:	22.3° C
Relative Humidity:	53.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jack Cheng
Supervised by:	Li Huan





### B.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.52	$\geq 0.5$	Pass
NVNT	b	2437	Ant1	9.029	$\geq 0.5$	Pass
NVNT	b	2462	Ant1	7.111	$\geq 0.5$	Pass
NVNT	g	2412	Ant1	13.932	$\geq 0.5$	Pass
NVNT	g	2437	Ant1	15.656	$\geq 0.5$	Pass
NVNT	g	2462	Ant1	13.838	$\geq 0.5$	Pass
NVNT	n20	2412	Ant1	15.291	$\geq 0.5$	Pass
NVNT	n20	2437	Ant1	16.094	$\geq 0.5$	Pass
NVNT	n20	2462	Ant1	12.556	$\geq 0.5$	Pass

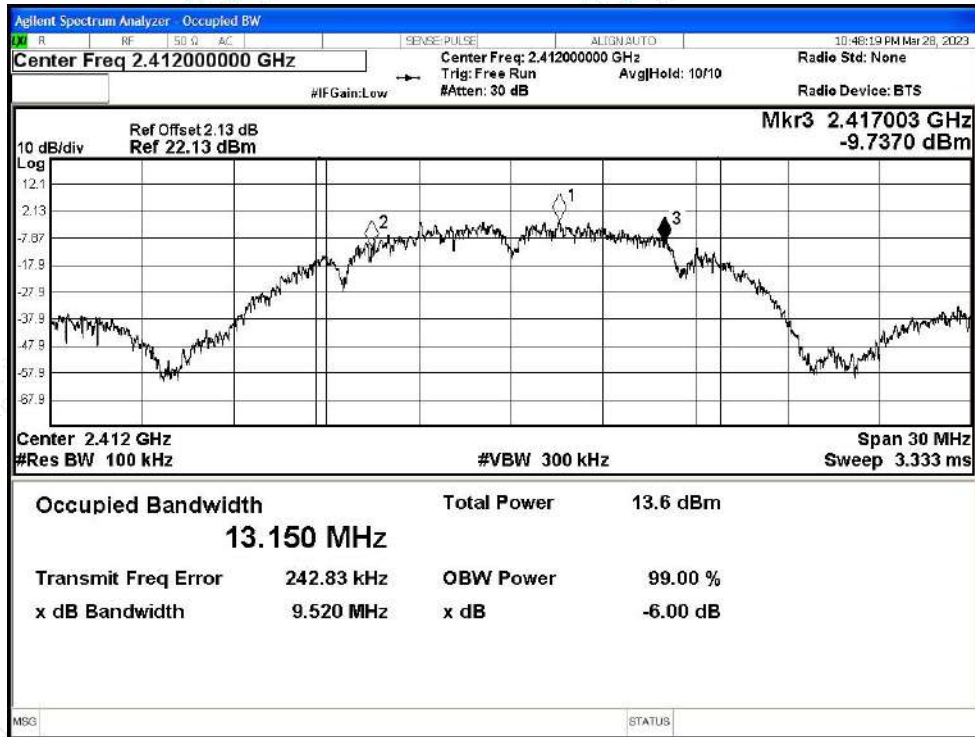


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com  
Scan code to check authenticity

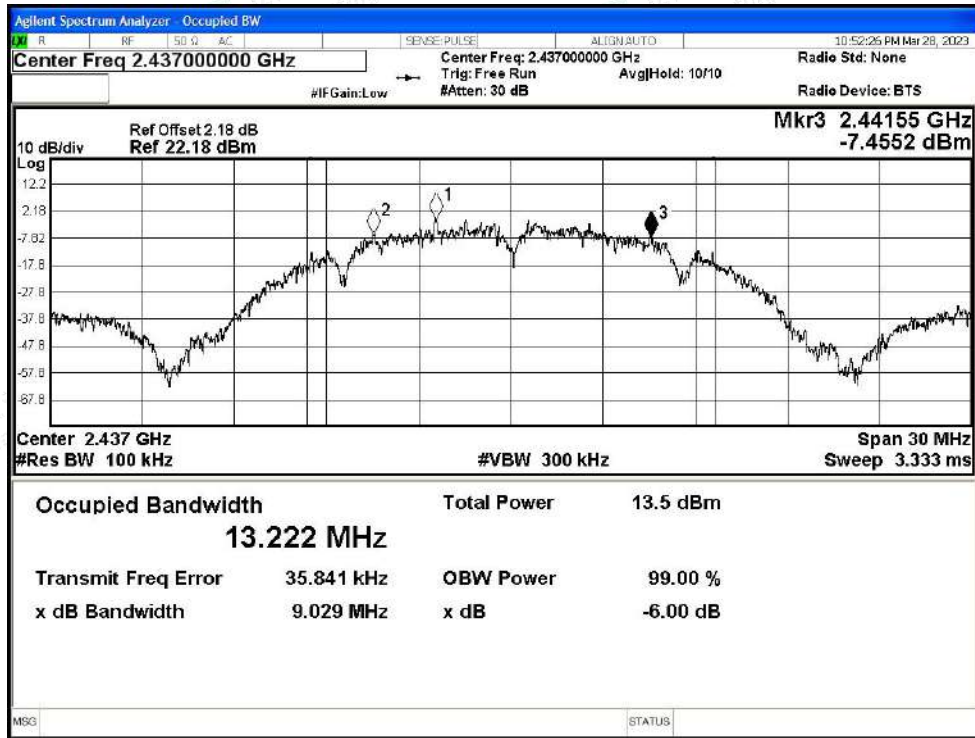


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1

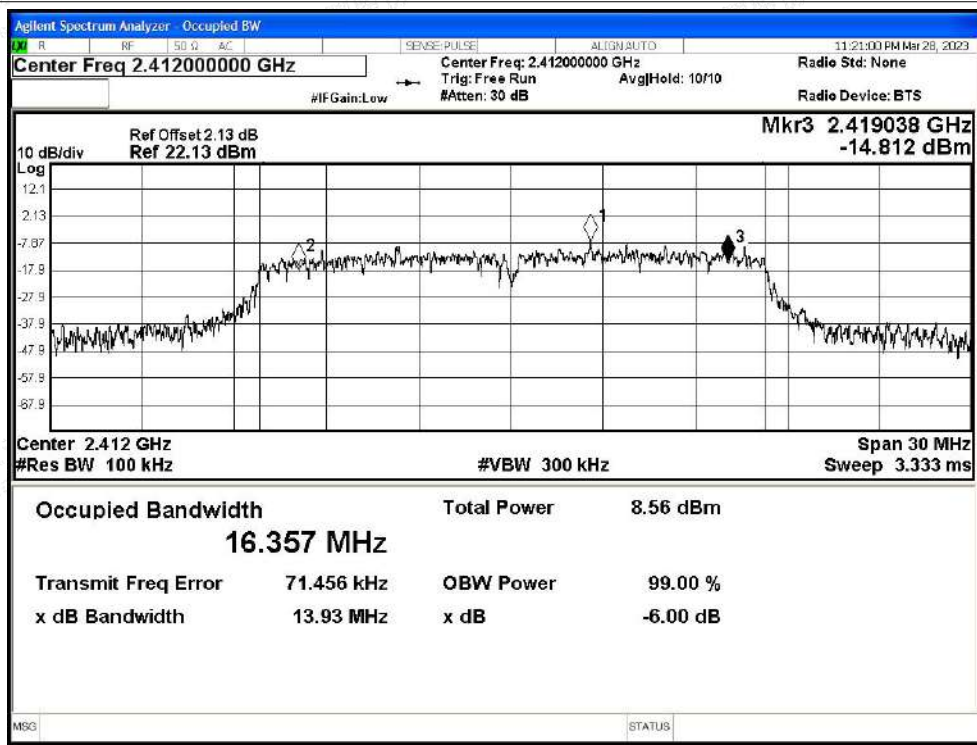




-6dB Bandwidth NVNT b 2462MHz Ant1

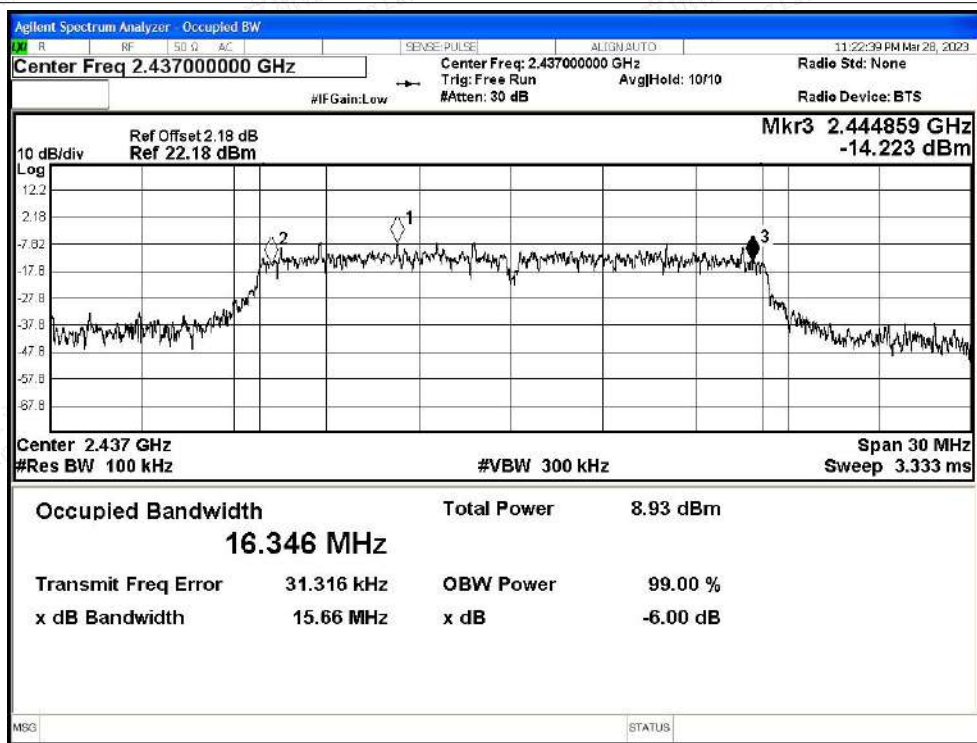


-6dB Bandwidth NVNT g 2412MHz Ant1





-6dB Bandwidth NVNT g 2437MHz Ant1



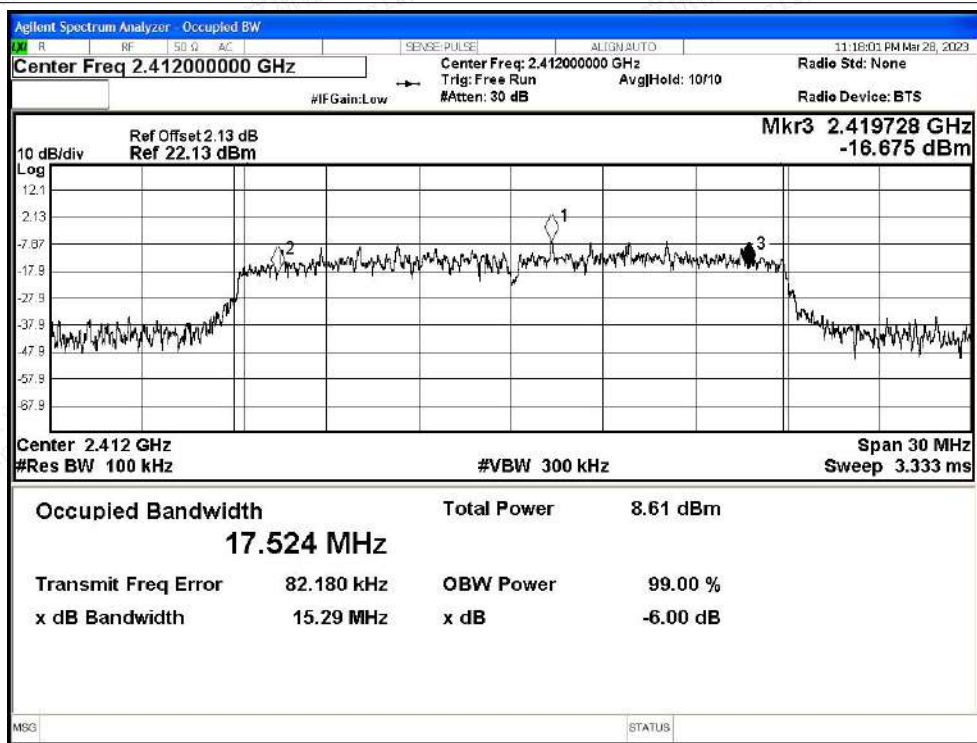
-6dB Bandwidth NVNT g 2462MHz Ant1



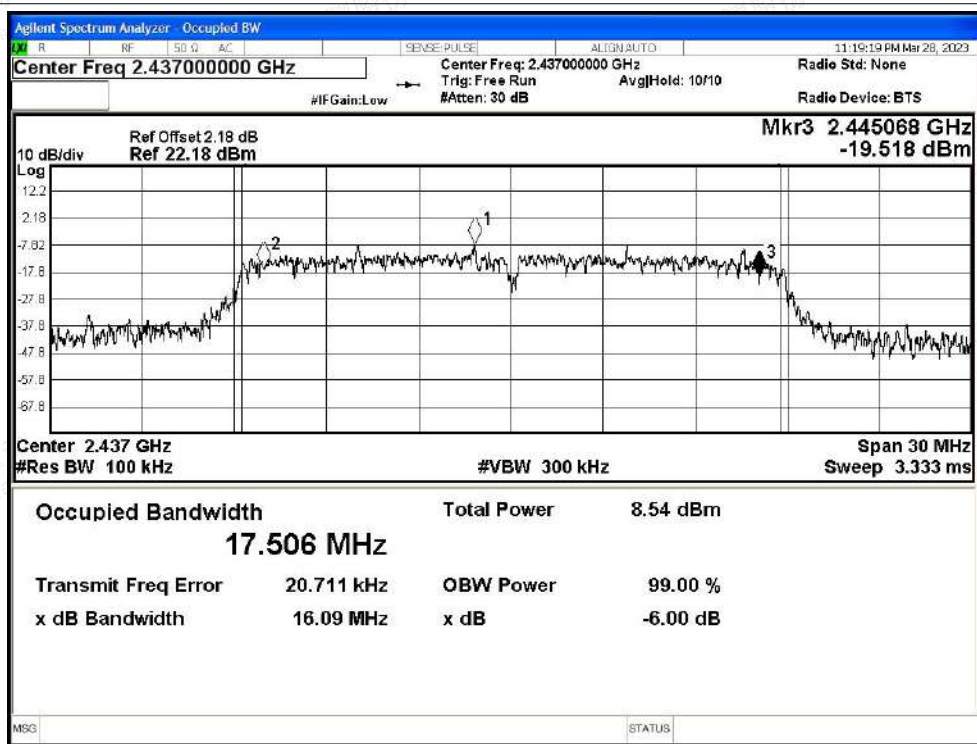


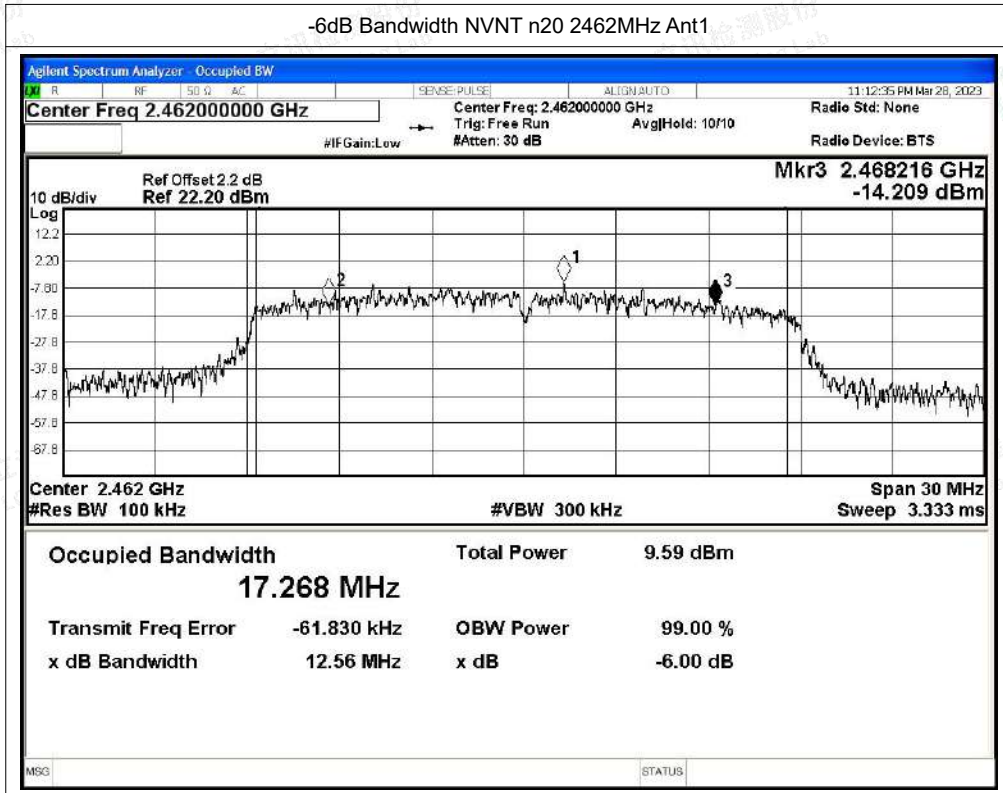


-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1







## B.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	5.59	30	Pass
NVNT	b	2437	Ant1	5.95	30	Pass
NVNT	b	2462	Ant1	5.24	30	Pass
NVNT	g	2412	Ant1	5.21	30	Pass
NVNT	g	2437	Ant1	5.39	30	Pass
NVNT	g	2462	Ant1	5.44	30	Pass
NVNT	n20	2412	Ant1	5.99	30	Pass
NVNT	n20	2437	Ant1	5.42	30	Pass
NVNT	n20	2462	Ant1	5.83	30	Pass







### B.3 Maximum Power Spectral Density Level

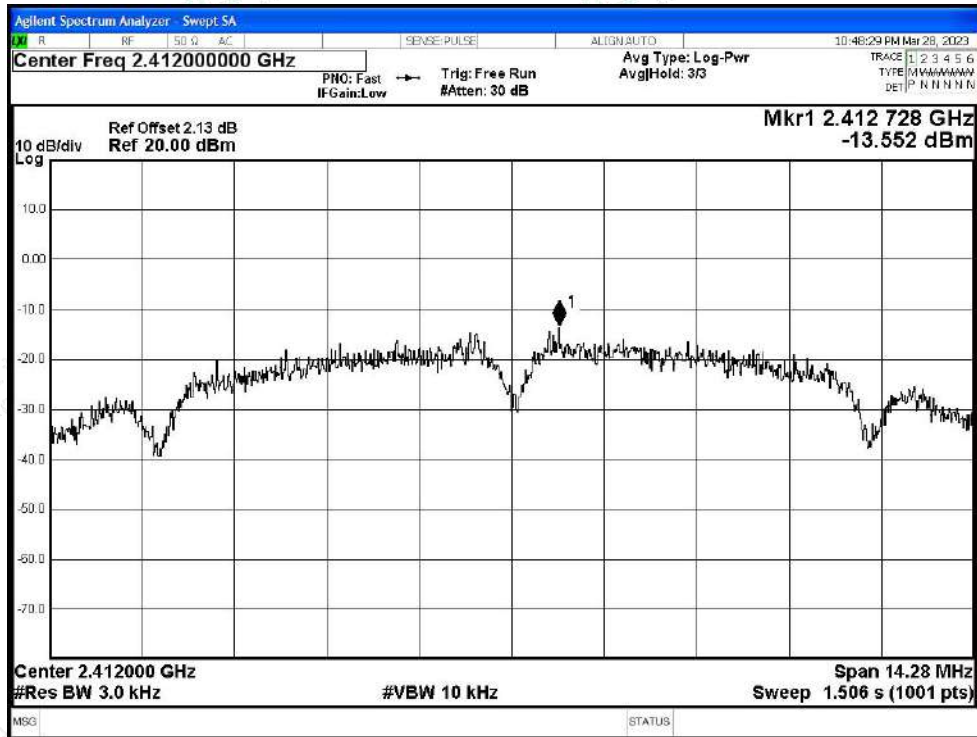
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-13.55	8	Pass
NVNT	b	2437	Ant1	-15.31	8	Pass
NVNT	b	2462	Ant1	-13.99	8	Pass
NVNT	g	2412	Ant1	-21.19	8	Pass
NVNT	g	2437	Ant1	-21.04	8	Pass
NVNT	g	2462	Ant1	-18.93	8	Pass
NVNT	n20	2412	Ant1	-21.16	8	Pass
NVNT	n20	2437	Ant1	-19.81	8	Pass
NVNT	n20	2462	Ant1	-18.93	8	Pass



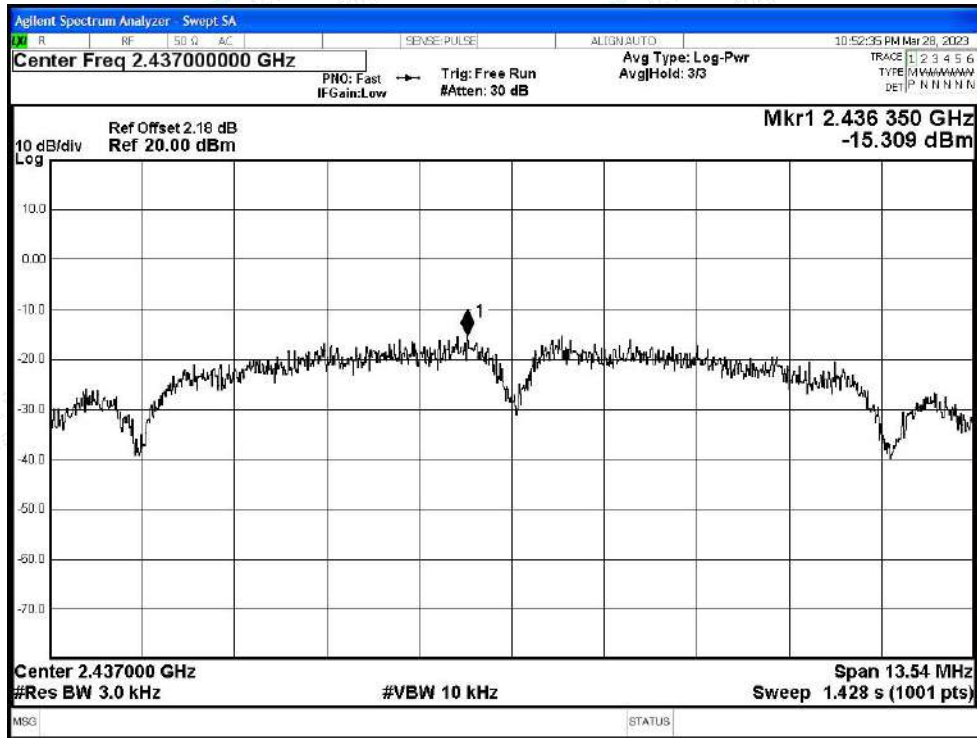


Test Graphs

PSD NVNT b 2412MHz Ant1

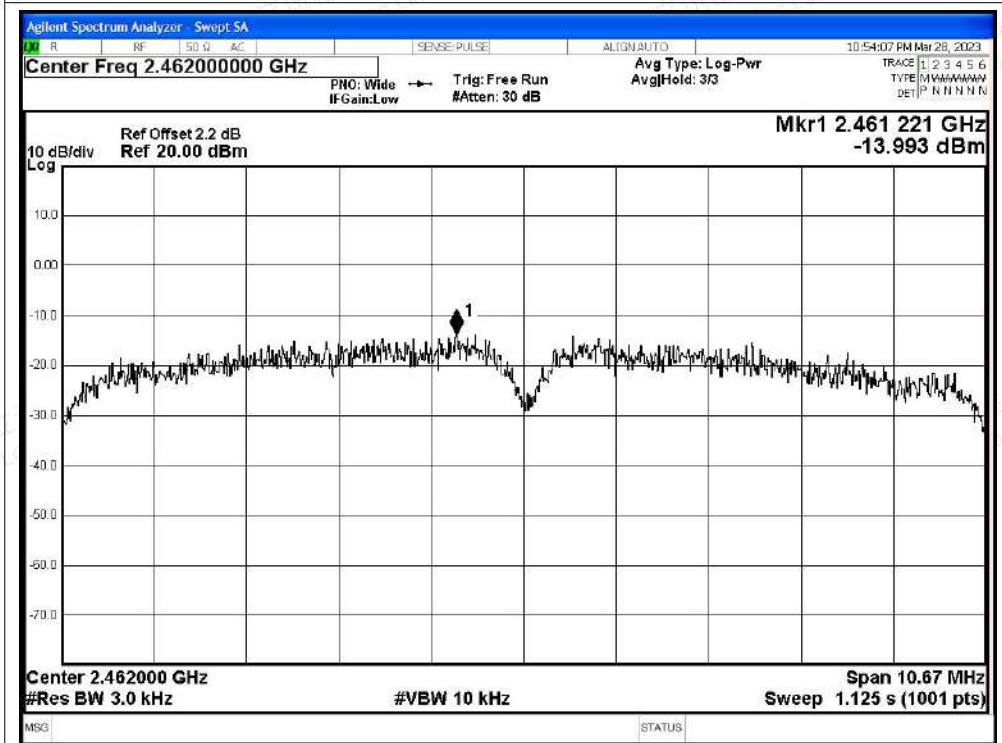


PSD NVNT b 2437MHz Ant1

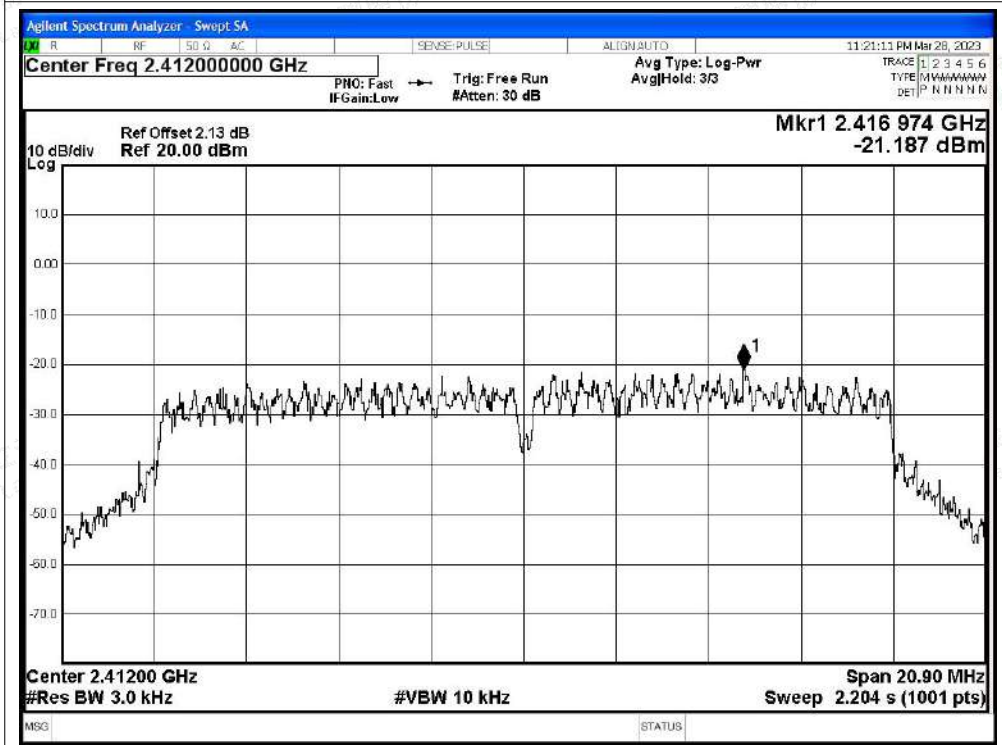




PSD NVNT b 2462MHz Ant1

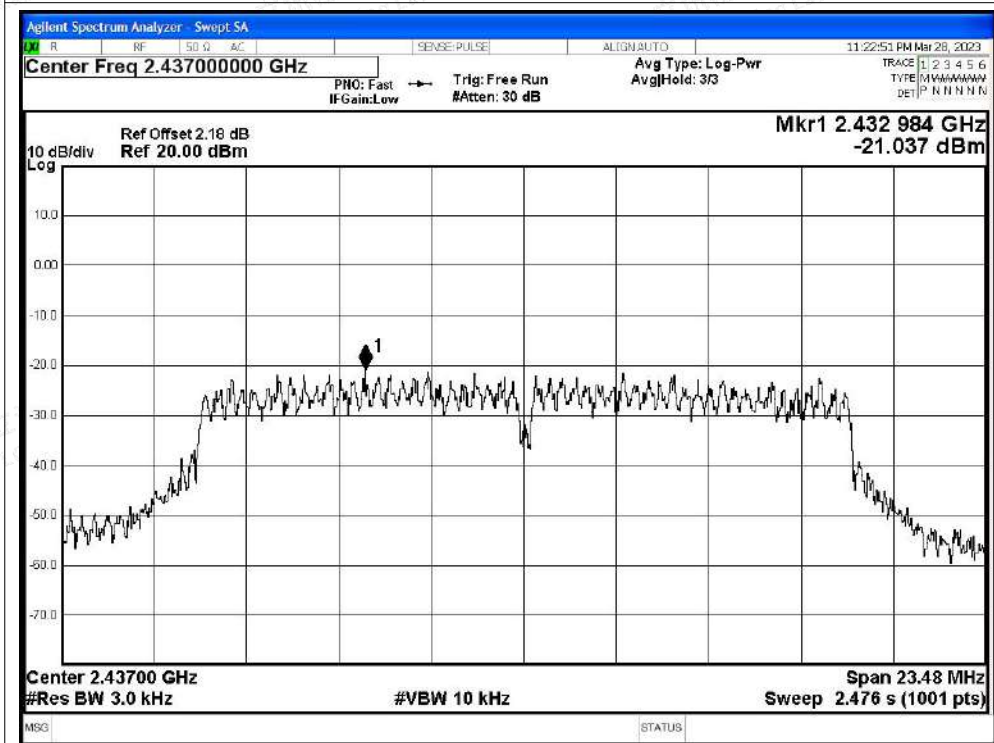


PSD NVNT g 2412MHz Ant1

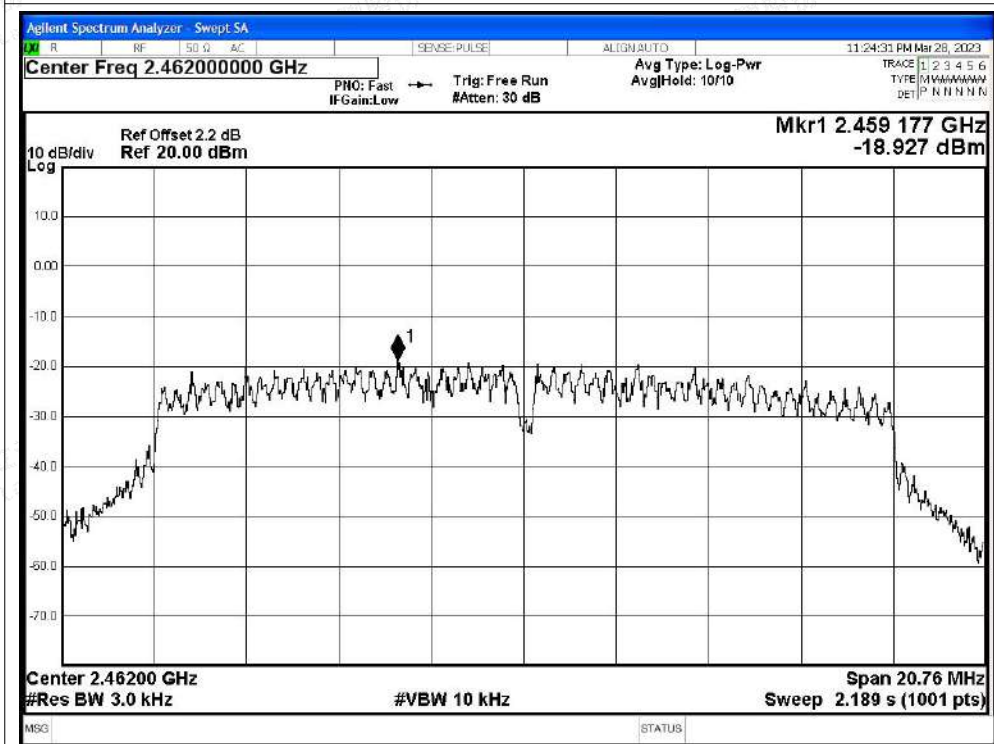




PSD NVNT g 2437MHz Ant1

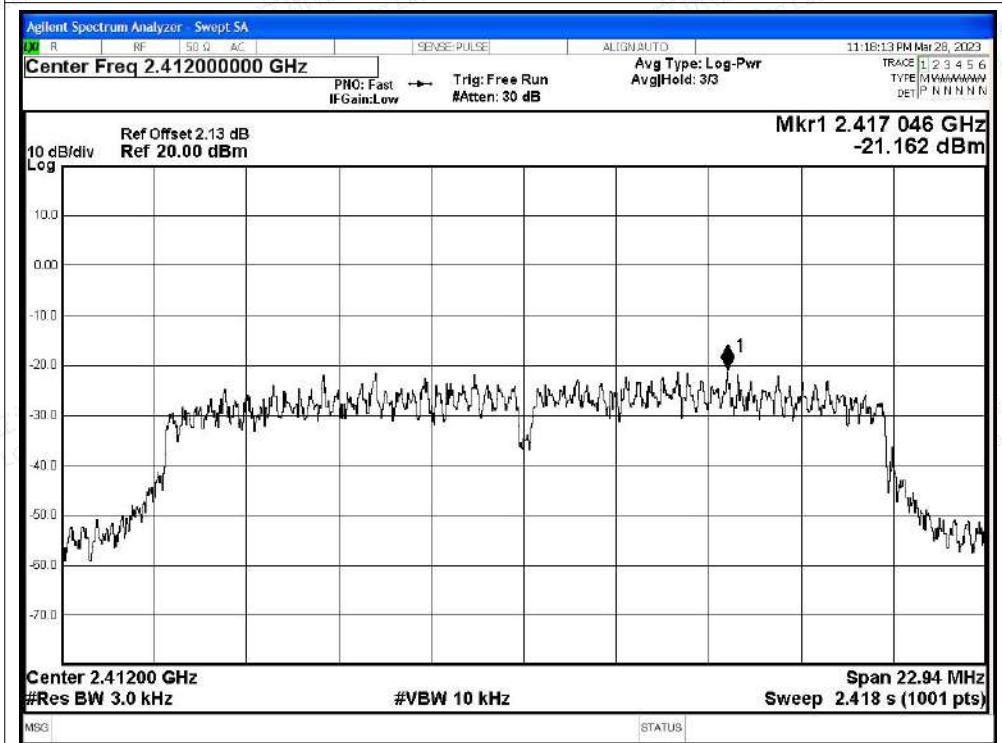


PSD NVNT g 2462MHz Ant1

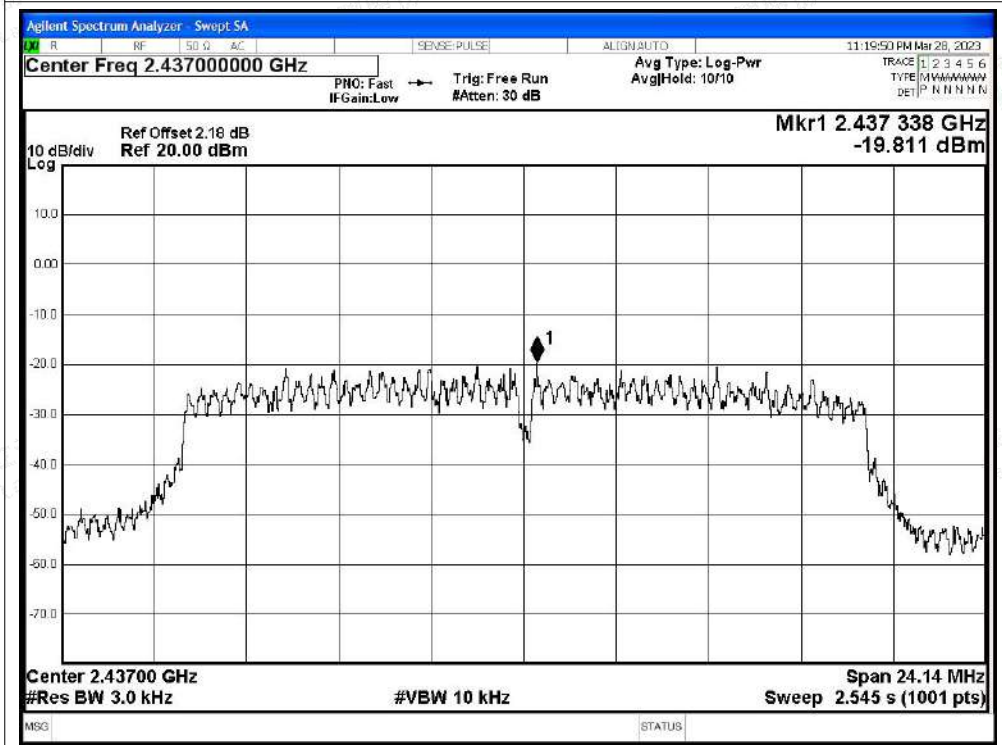




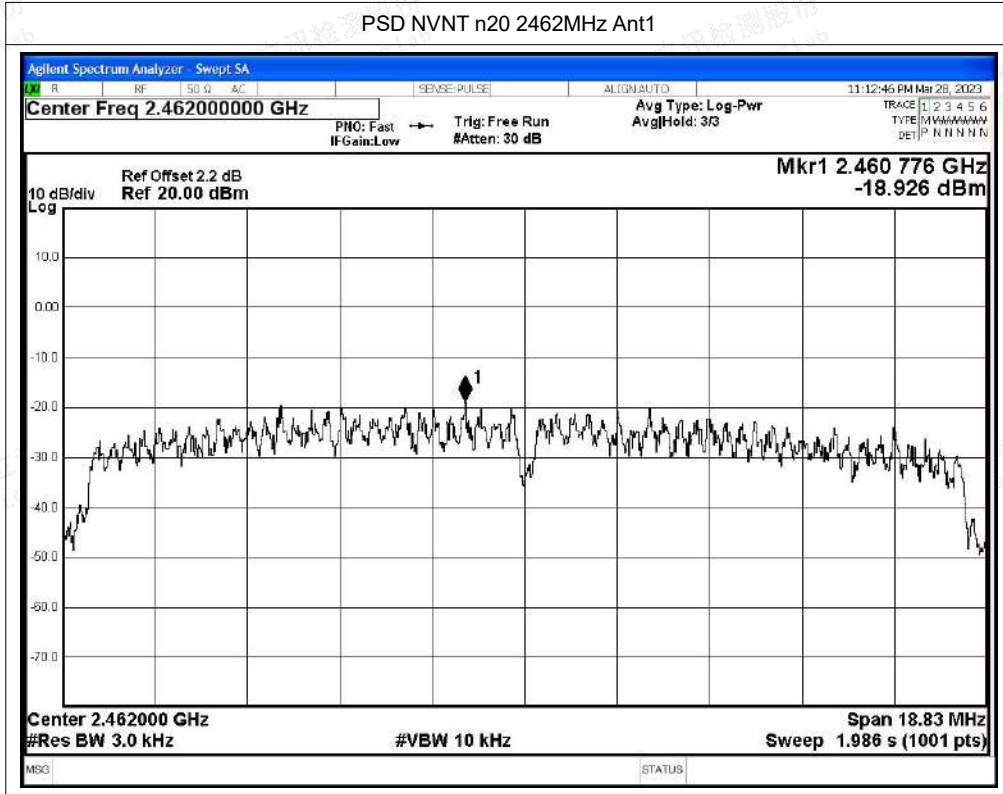
PSD NVNT n20 2412MHz Ant1



PSD NVNT n20 2437MHz Ant1









### B.4 Band Edge

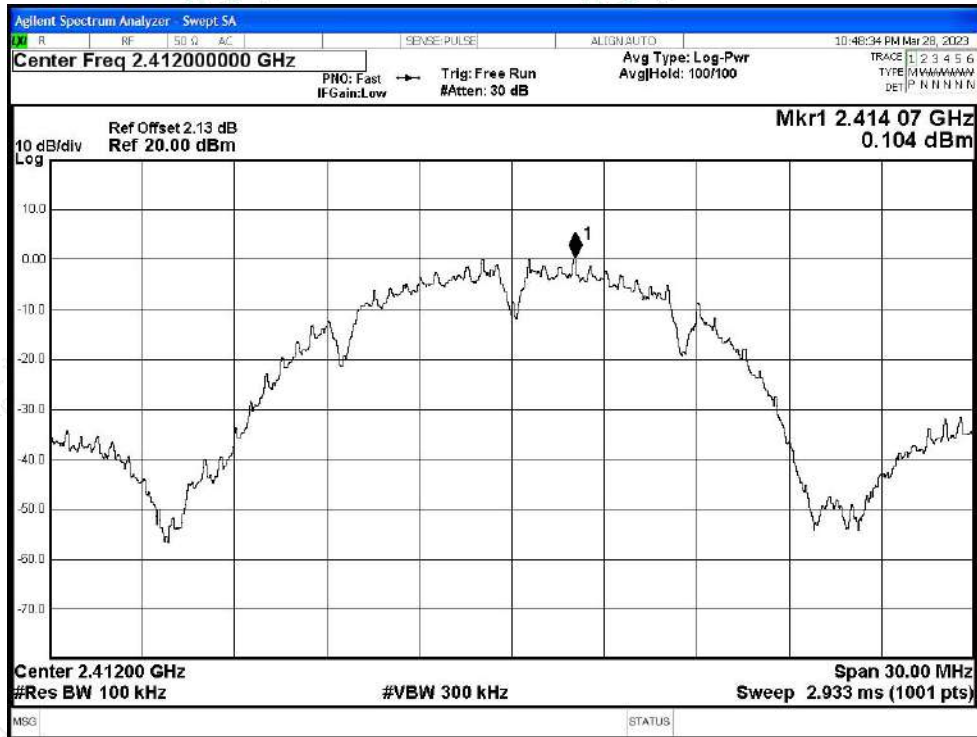
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-36.06	-20	Pass
NVNT	b	2462	Ant1	-53.77	-20	Pass
NVNT	g	2412	Ant1	-31	-20	Pass
NVNT	g	2462	Ant1	-42.71	-20	Pass
NVNT	n20	2412	Ant1	-29.32	-20	Pass
NVNT	n20	2462	Ant1	-43.28	-20	Pass





Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

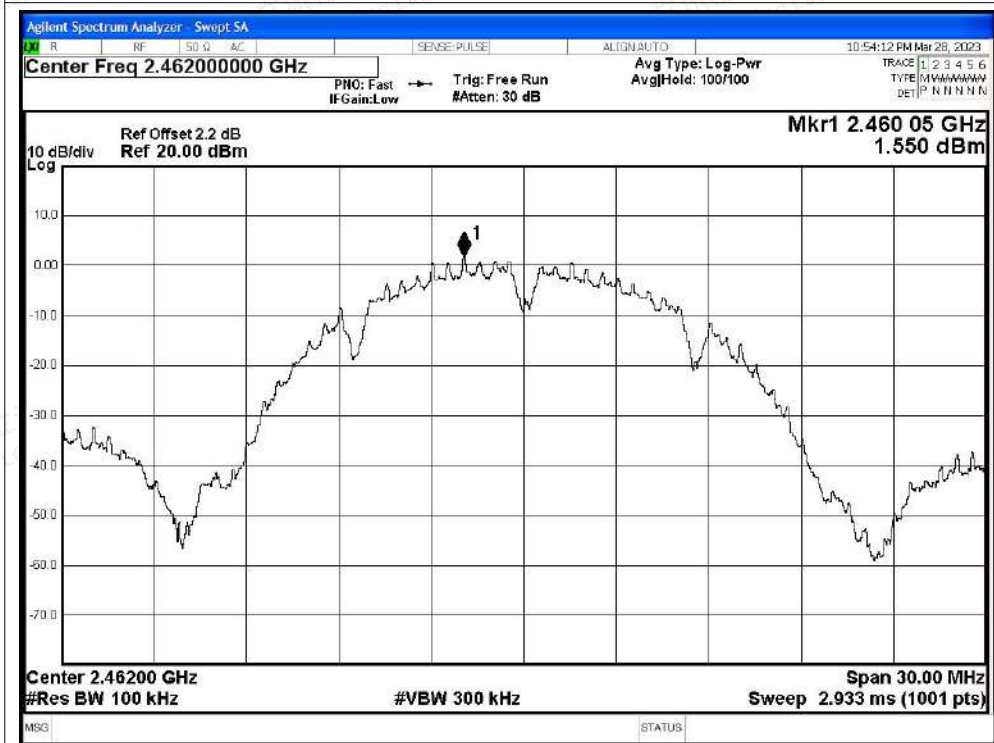


Band Edge NVNT b 2412MHz Ant1 Emission

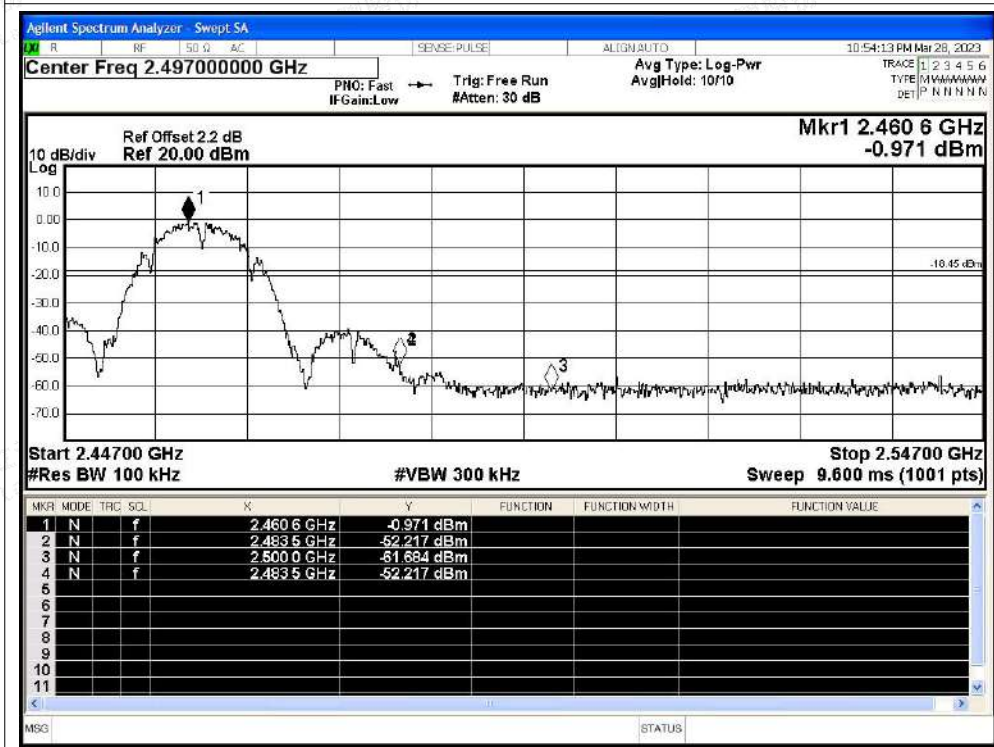




Band Edge NVNT b 2462MHz Ant1 Ref

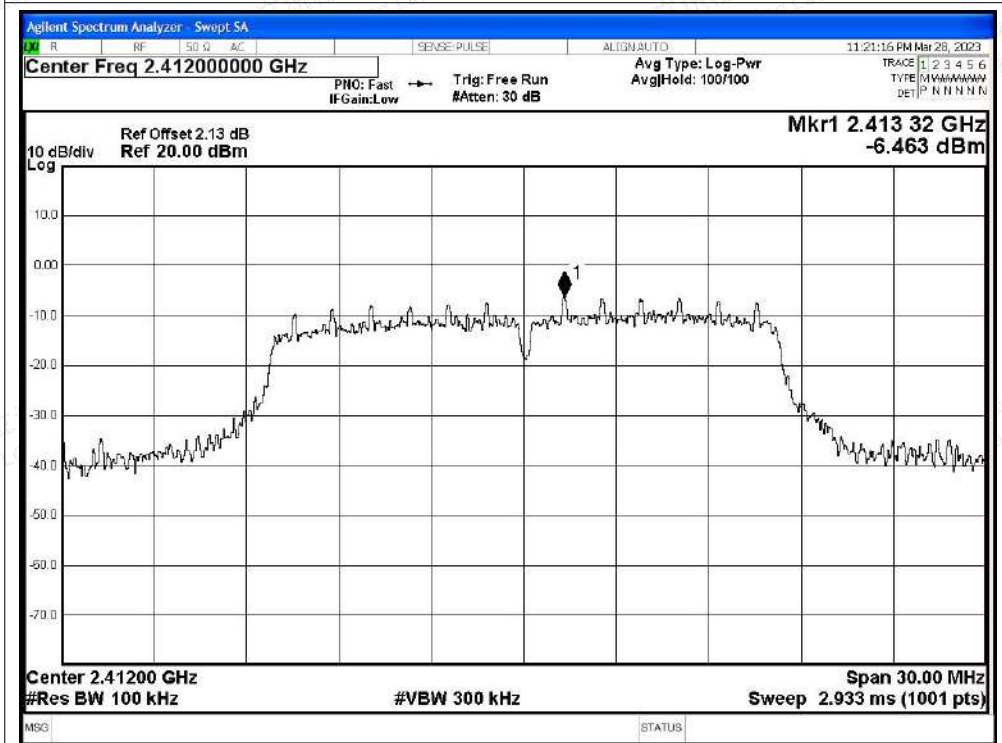


Band Edge NVNT b 2462MHz Ant1 Emission

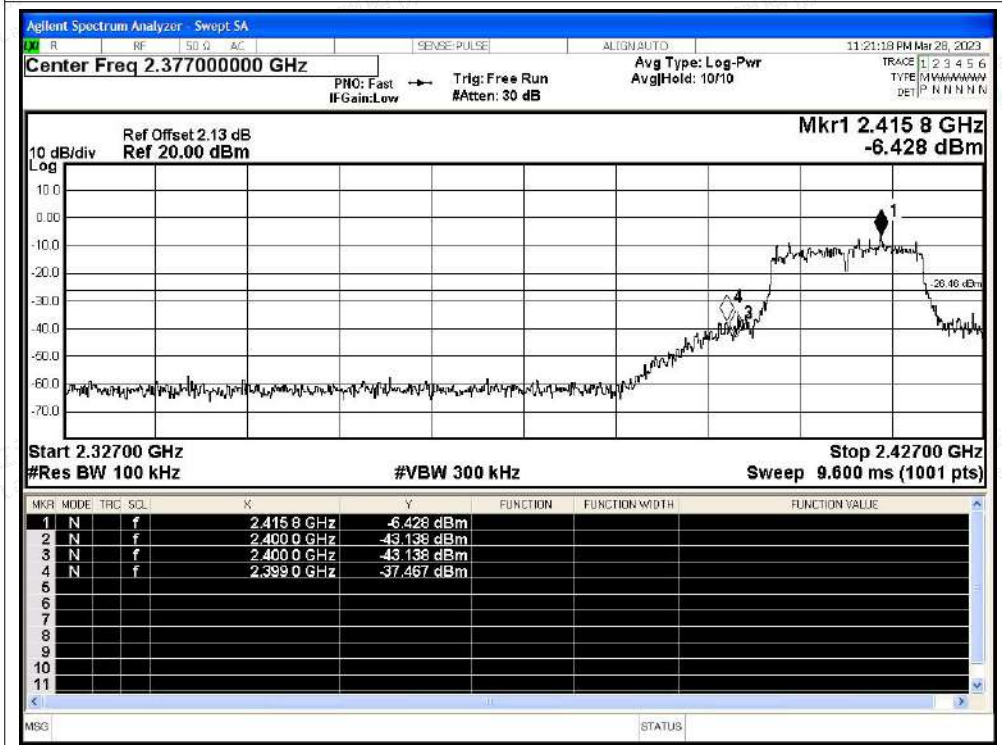




Band Edge NVNT g 2412MHz Ant1 Ref



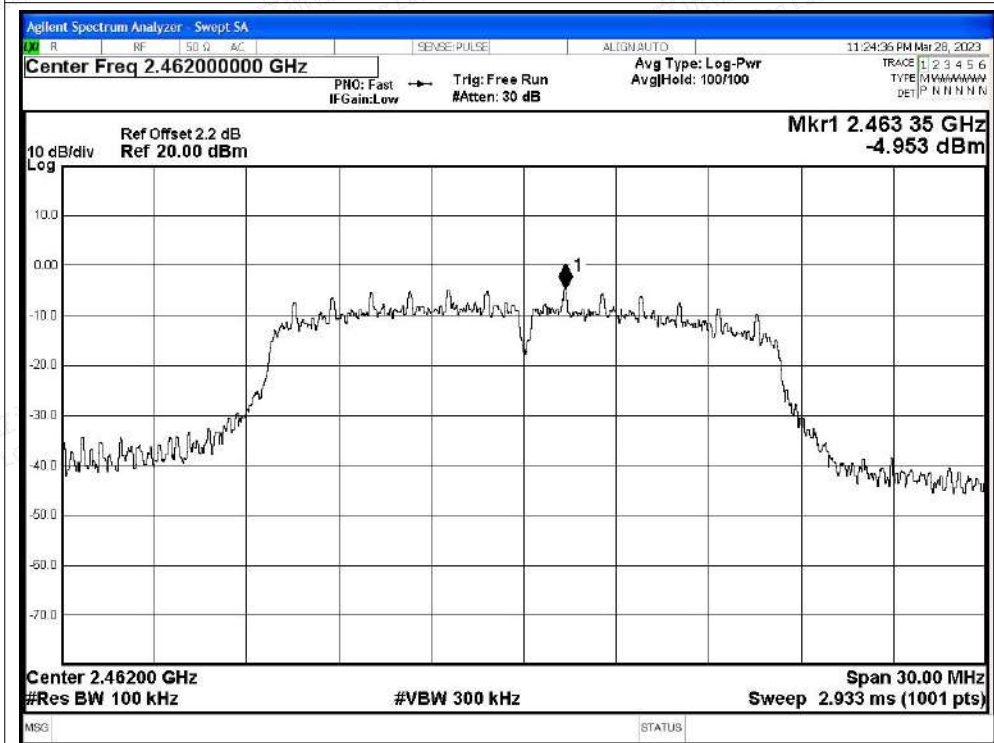
Band Edge NVNT g 2412MHz Ant1 Emission



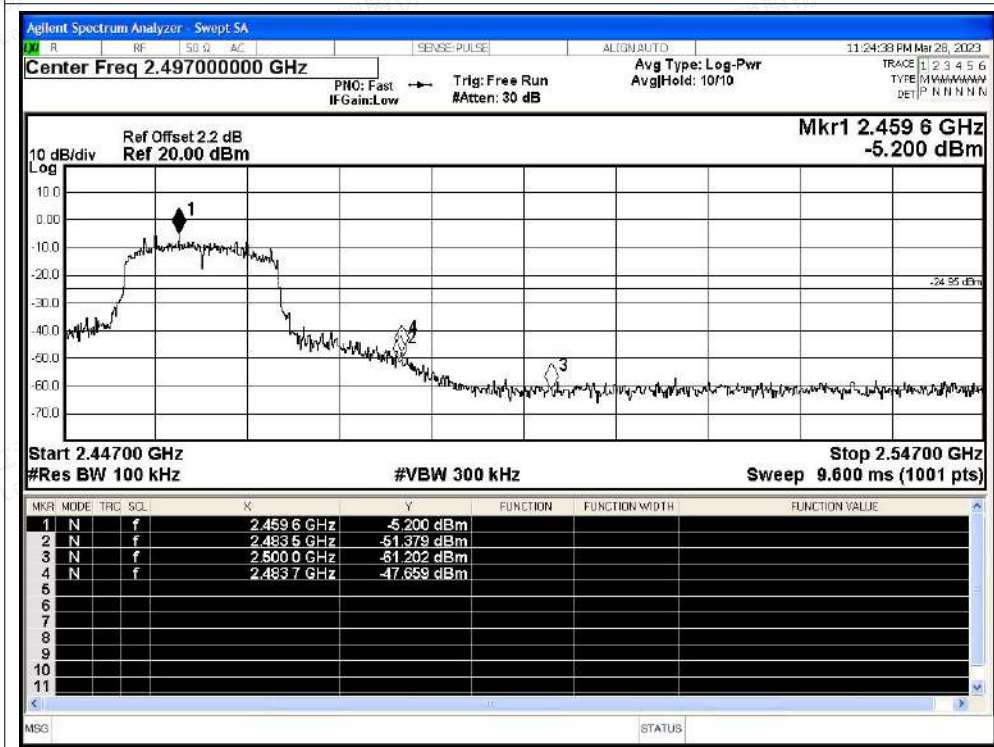




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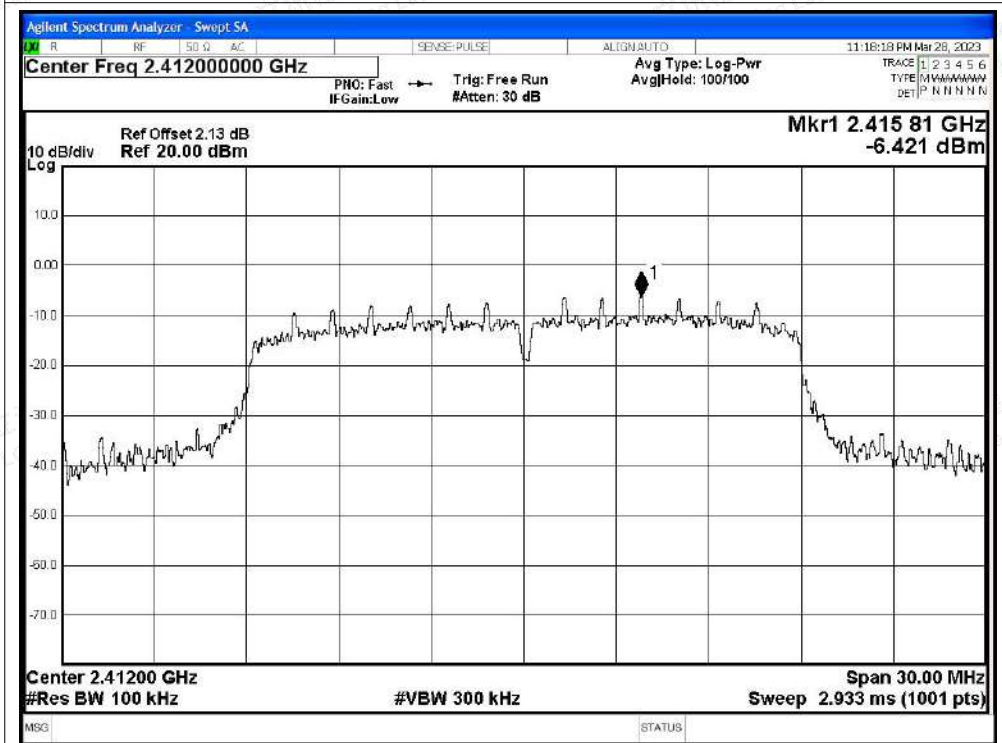


Band Edge NVNT g 2462MHz Ant1 Emission

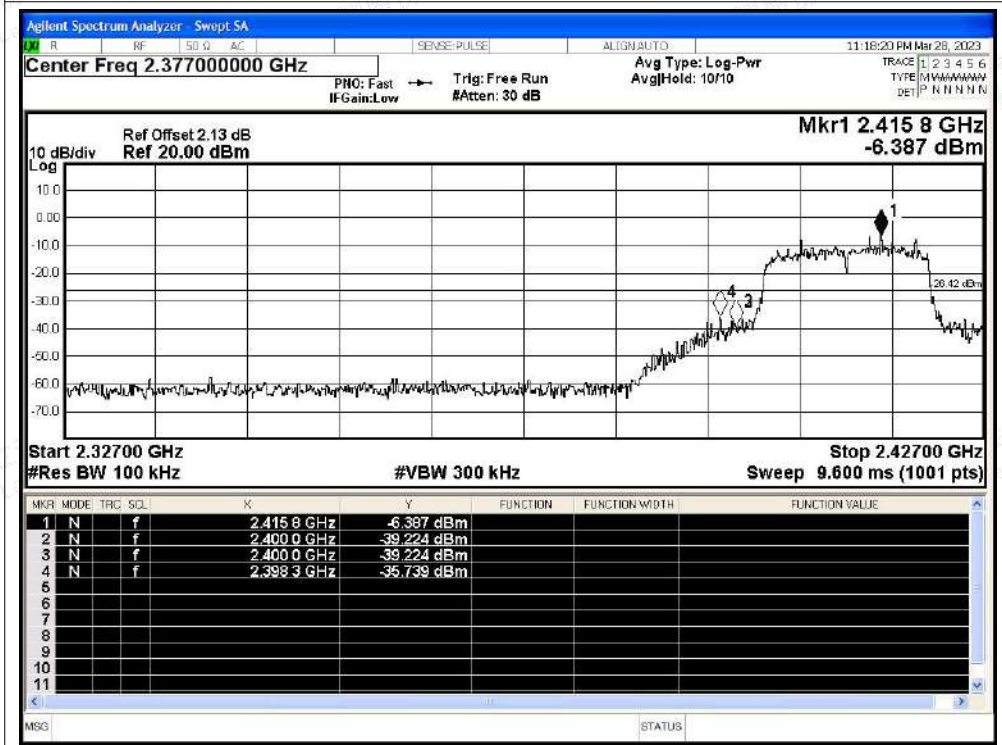




Band Edge NVNT n20 2412MHz Ant1 Ref

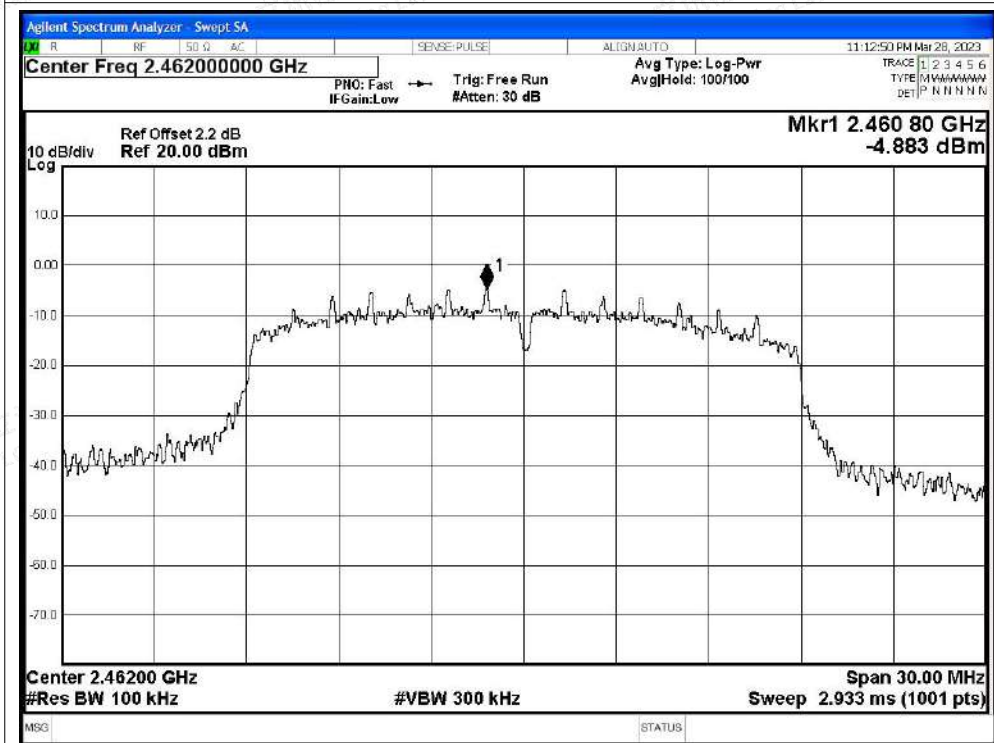


Band Edge NVNT n20 2412MHz Ant1 Emission

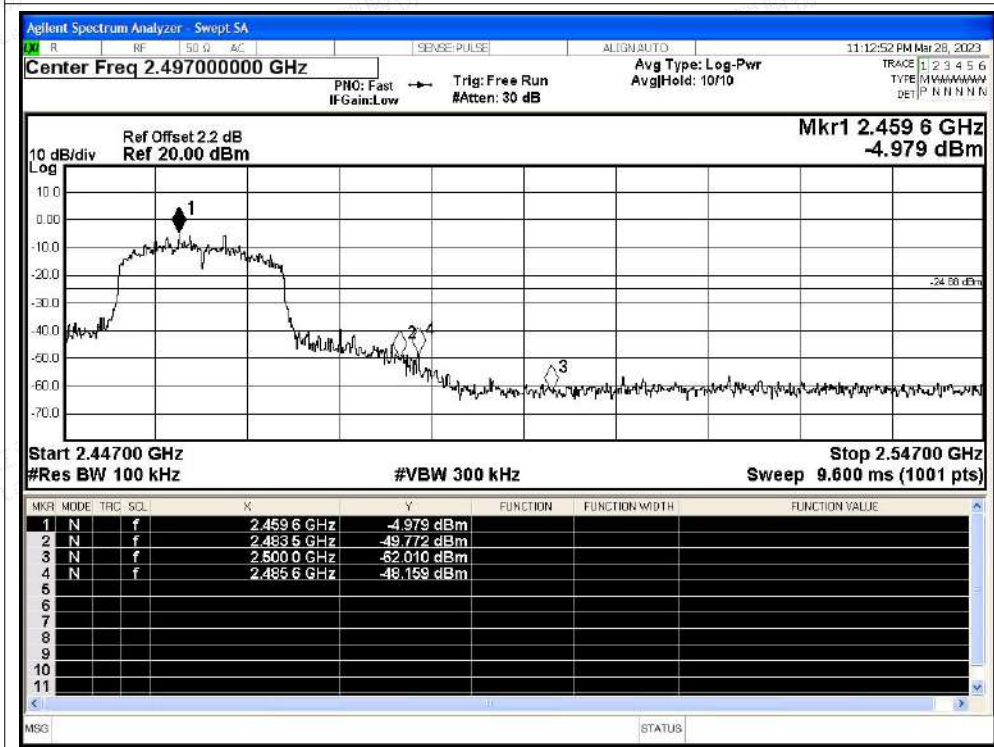




Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission





## B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-45.17	-20	Pass
NVNT	b	2437	Ant1	-46.18	-20	Pass
NVNT	b	2462	Ant1	-46.32	-20	Pass
NVNT	g	2412	Ant1	-38	-20	Pass
NVNT	g	2437	Ant1	-39.32	-20	Pass
NVNT	g	2462	Ant1	-40.98	-20	Pass
NVNT	n20	2412	Ant1	-40.06	-20	Pass
NVNT	n20	2437	Ant1	-39.92	-20	Pass
NVNT	n20	2462	Ant1	-41.68	-20	Pass

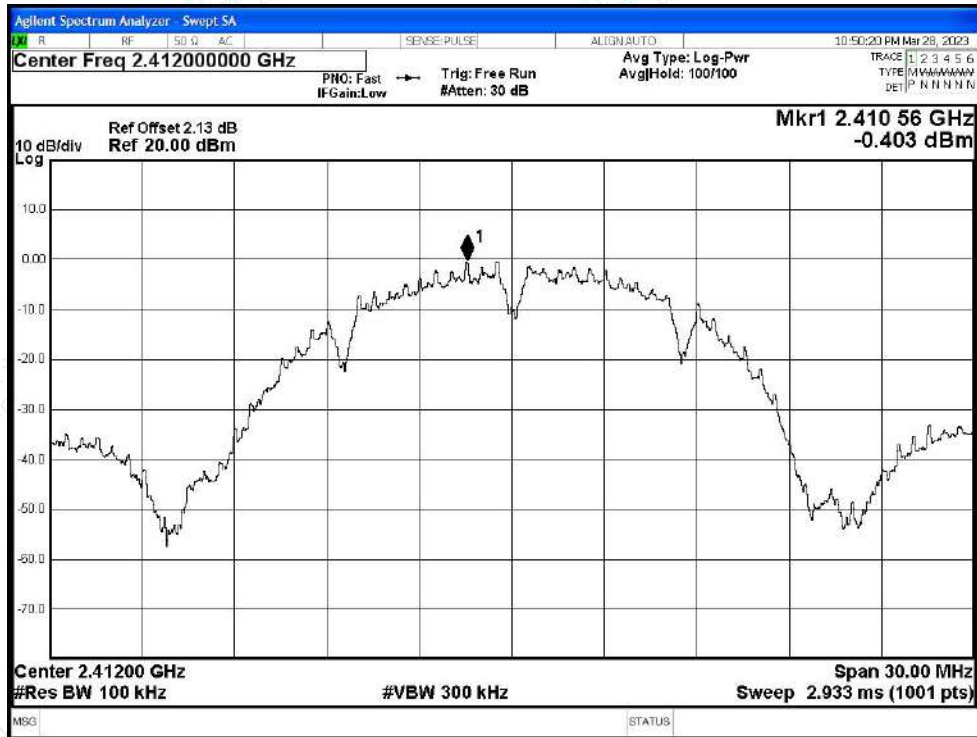


Shenzhen LCS Compliance Testing Laboratory Ltd.  
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China  
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Scan code to check authenticity

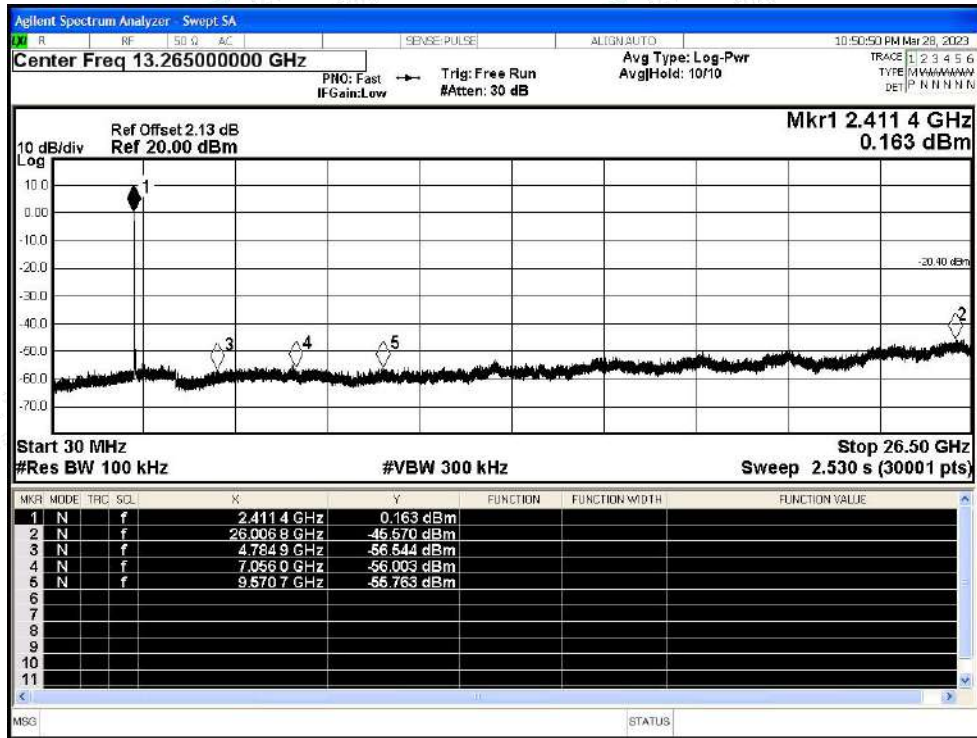


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



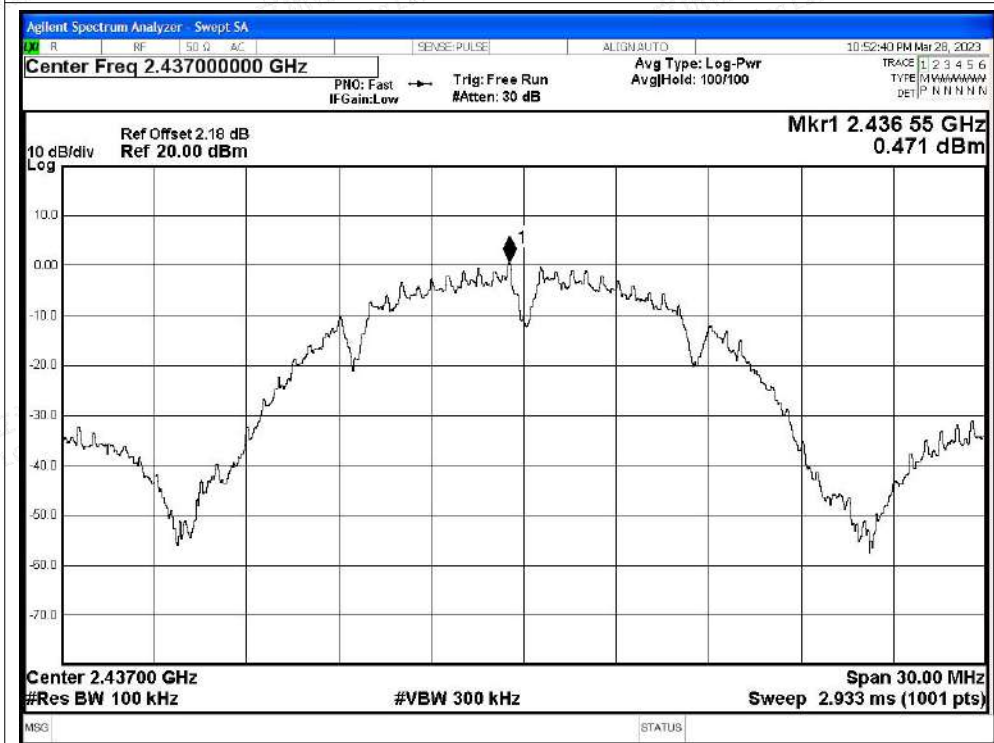
Tx. Spurious NVNT b 2412MHz Ant1 Emission



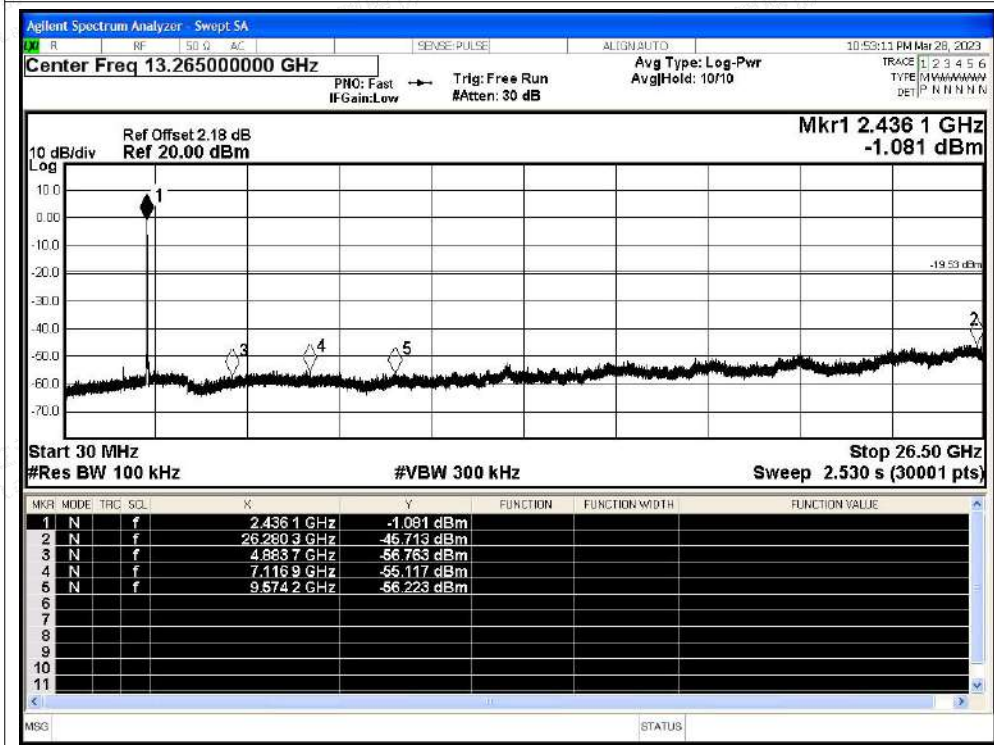




Tx. Spurious NVNT b 2437MHz Ant1 Ref

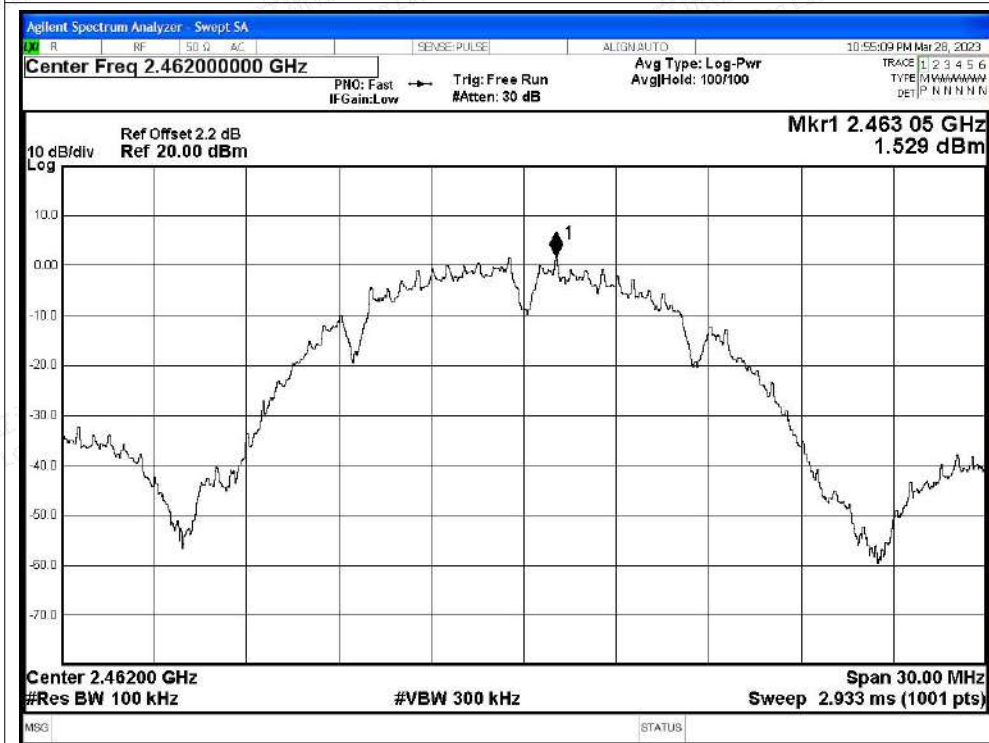


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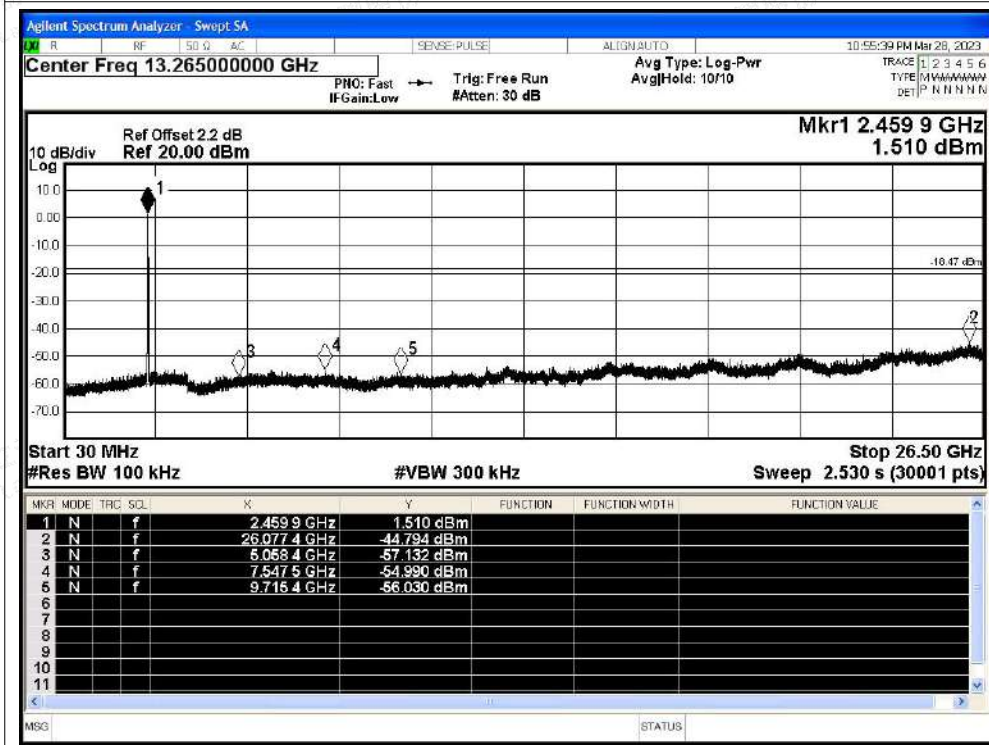




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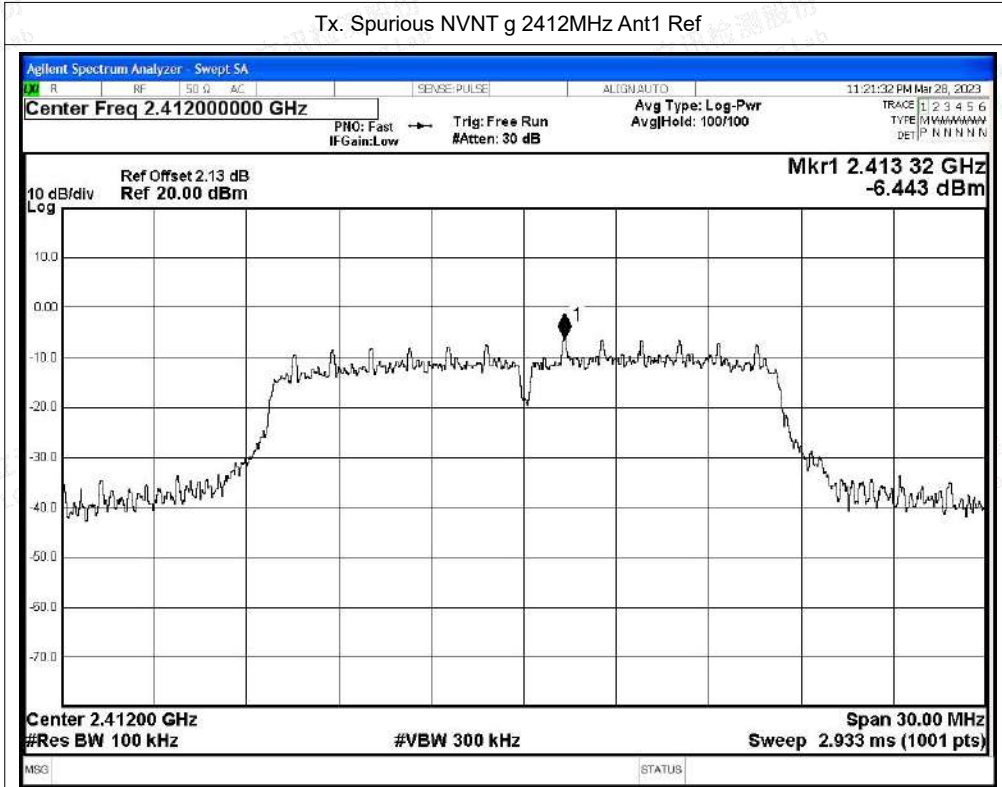


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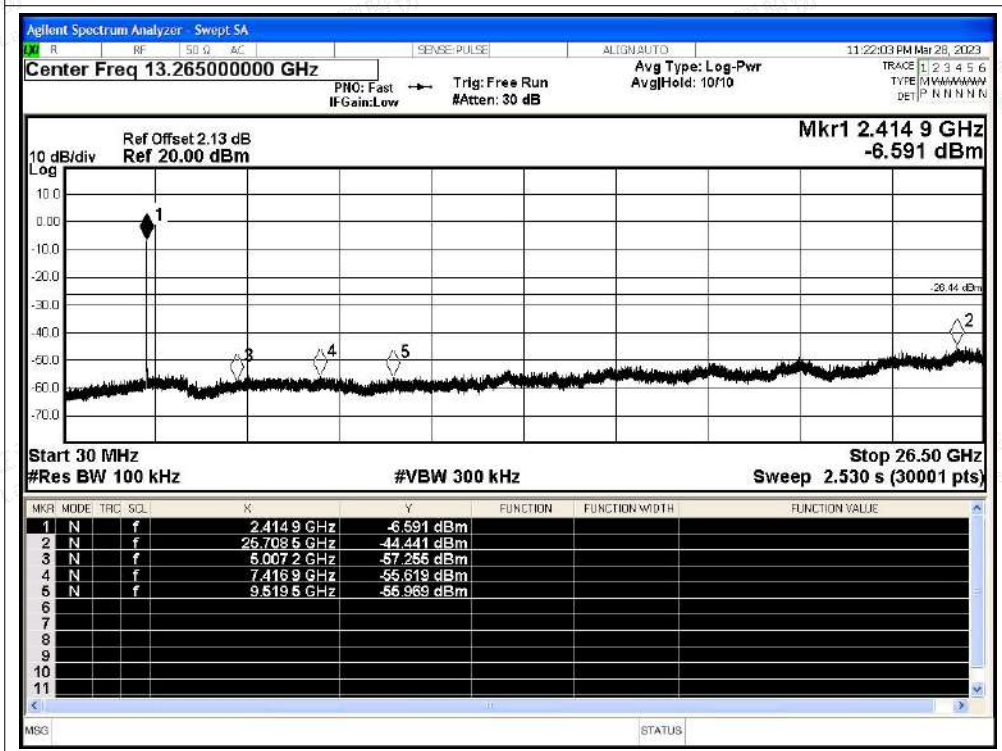




Tx. Spurious NVNT g 2412MHz Ant1 Ref

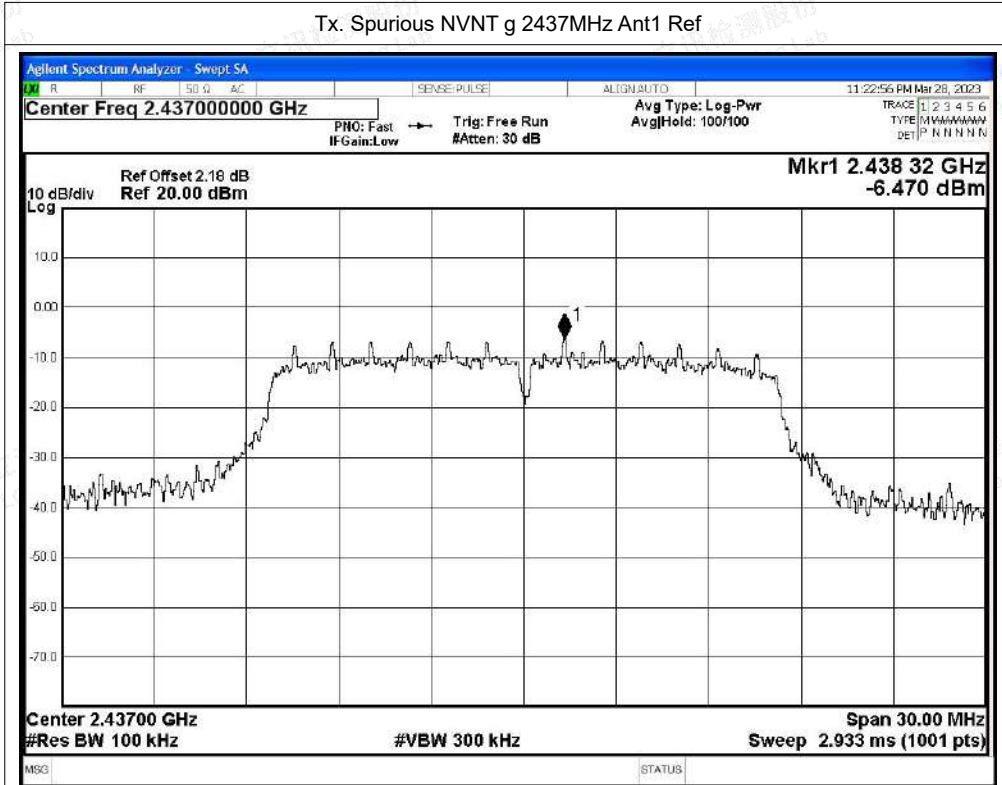


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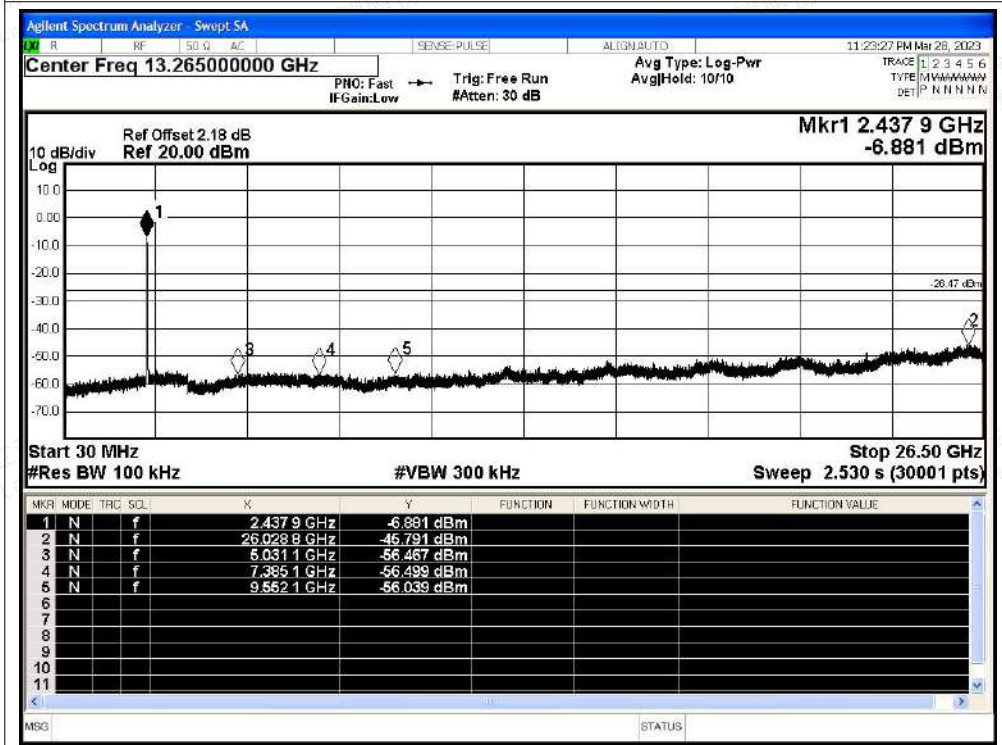




Tx. Spurious NVNT g 2437MHz Ant1 Ref



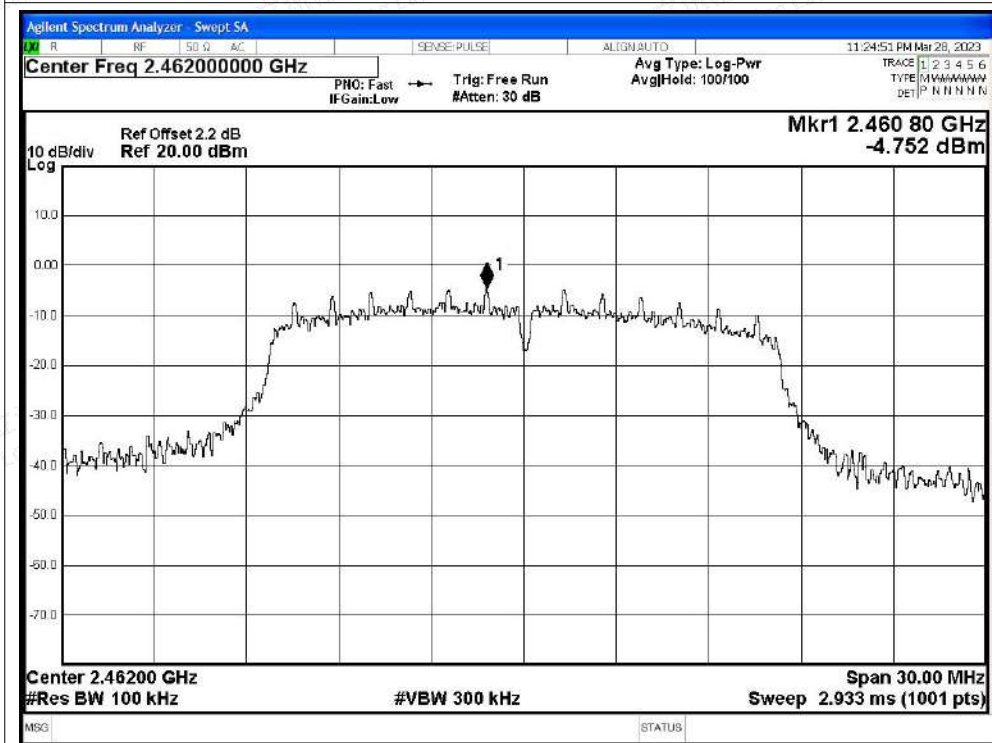
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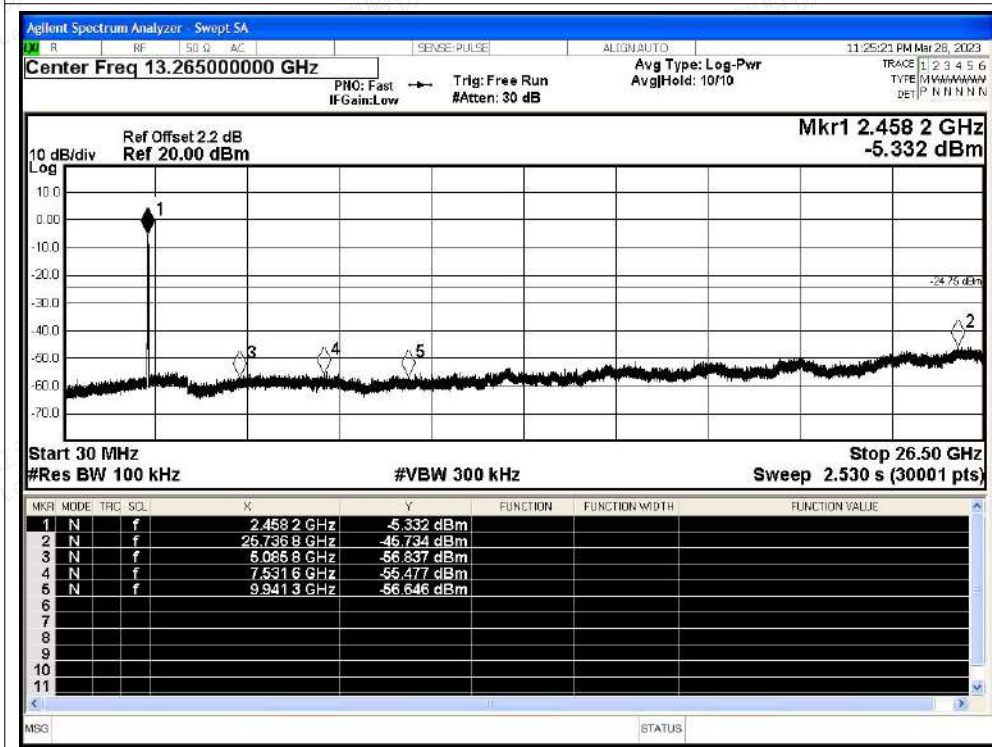




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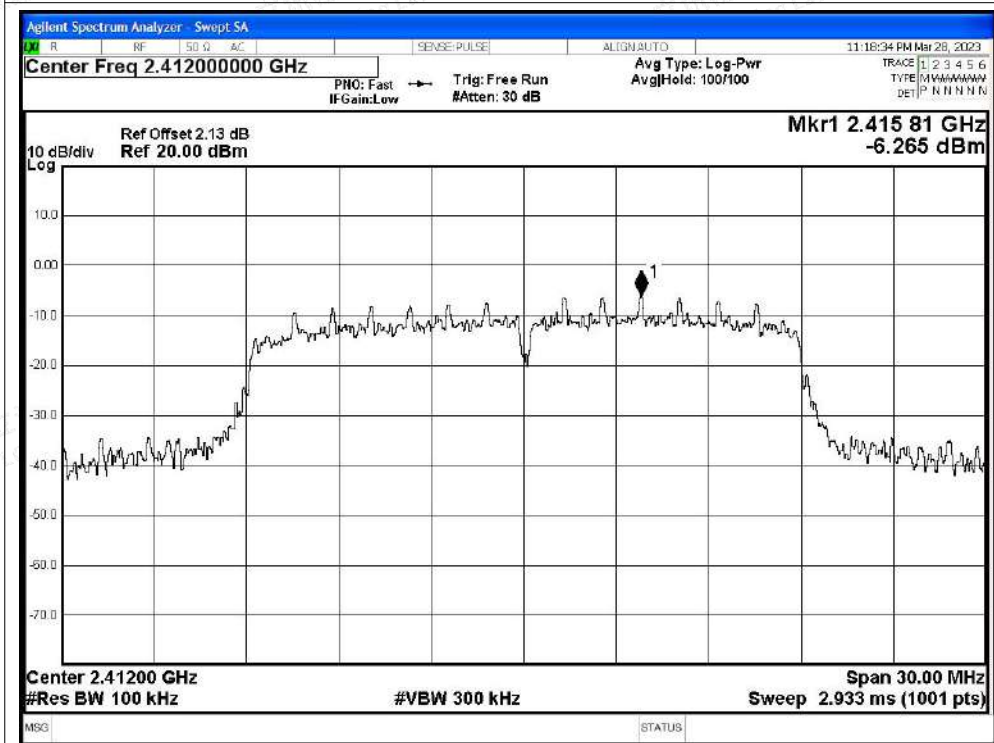
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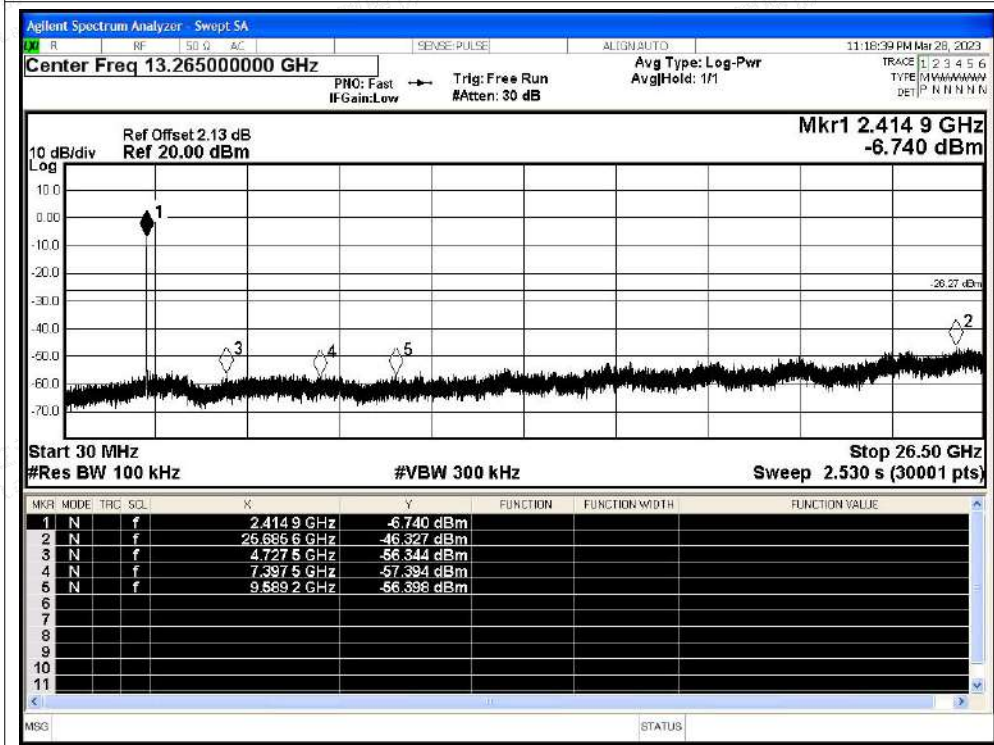




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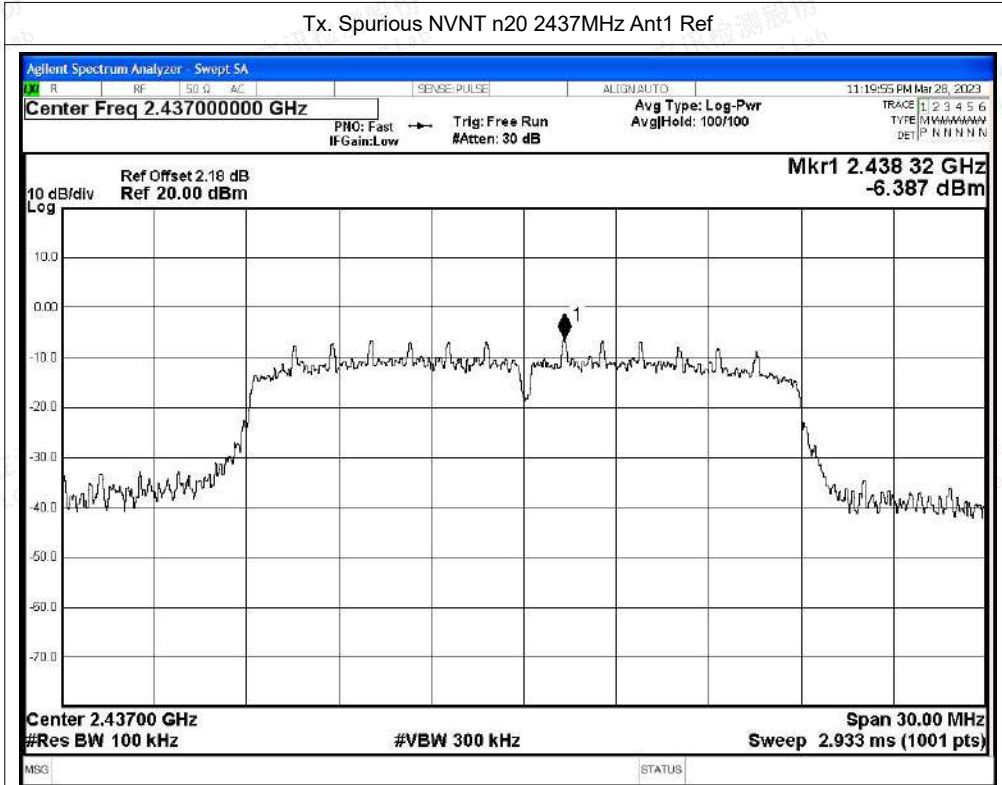


Tx. Spurious NVNT n20 2412MHz Ant1 Emission

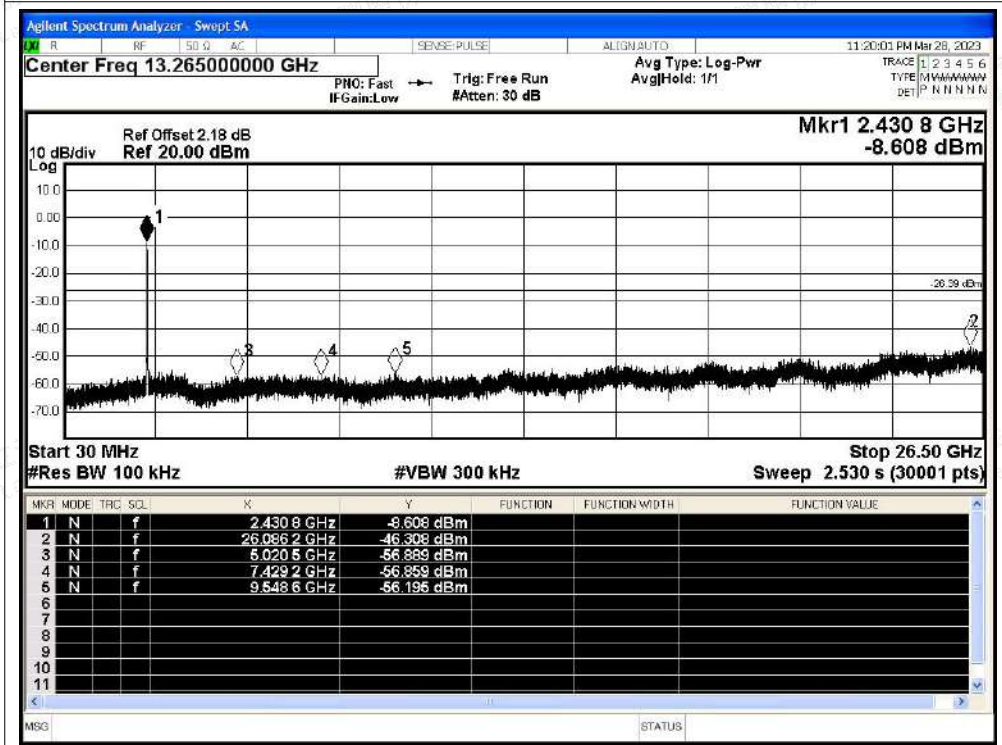




Tx. Spurious NVNT n20 2437MHz Ant1 Ref

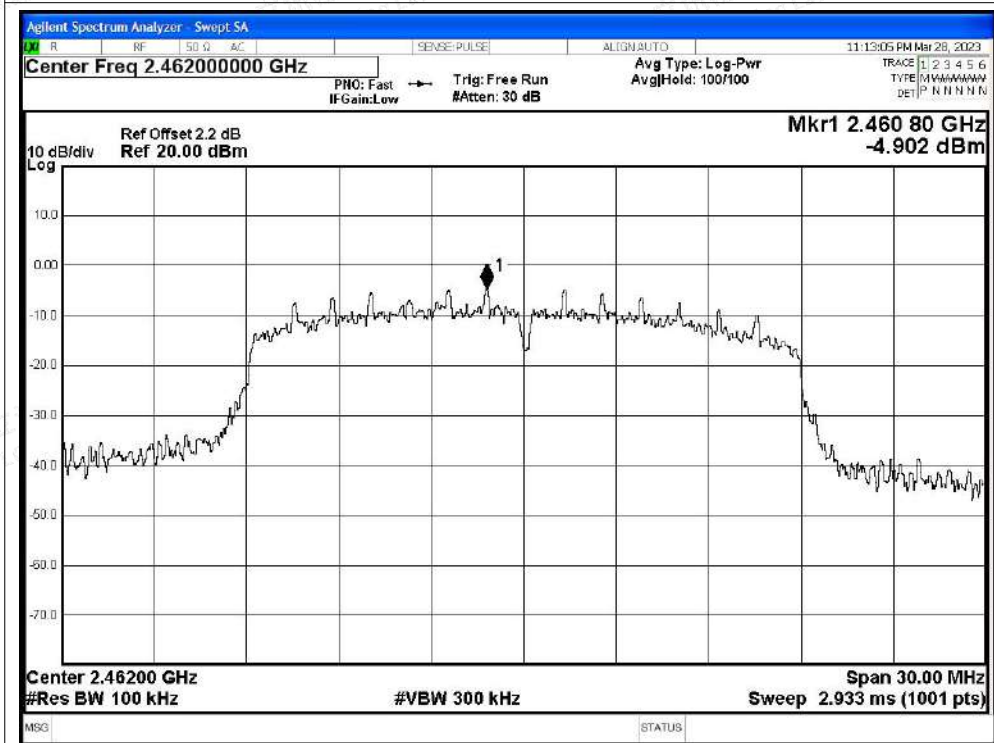


Tx. Spurious NVNT n20 2437MHz Ant1 Emission

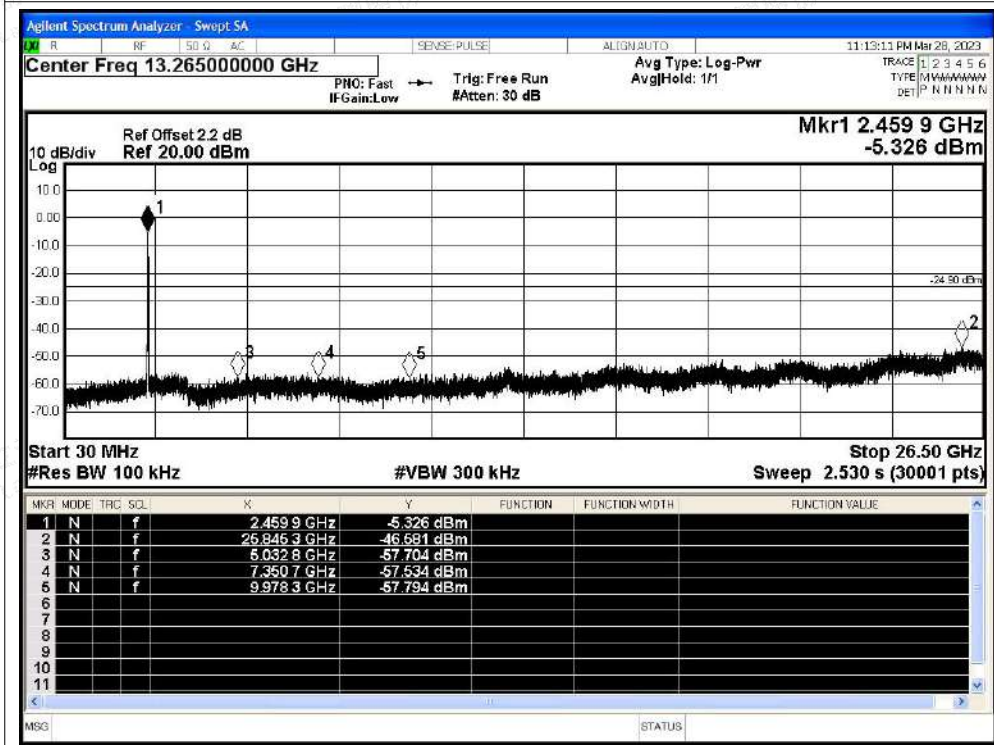




Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission





### B.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.09	0	0.97
NVNT	b	2437	Ant1	98.08	0	0.98
NVNT	b	2462	Ant1	98.09	0	0.97
NVNT	g	2412	Ant1	86.46	0.63	6.02
NVNT	g	2437	Ant1	86.46	0.63	6.02
NVNT	g	2462	Ant1	85.86	0.66	6.1
NVNT	n20	2412	Ant1	86.73	0.62	5.88
NVNT	n20	2437	Ant1	86.6	0.62	5.95
NVNT	n20	2462	Ant1	86.6	0.62	5.95

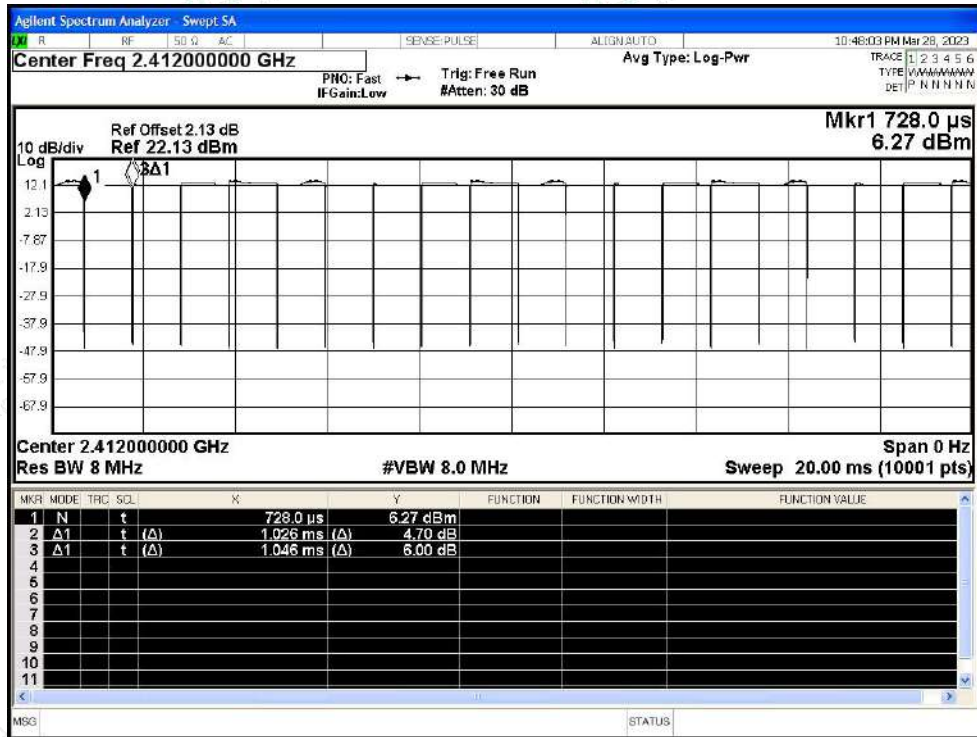


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 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China  
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 Scan code to check authenticity

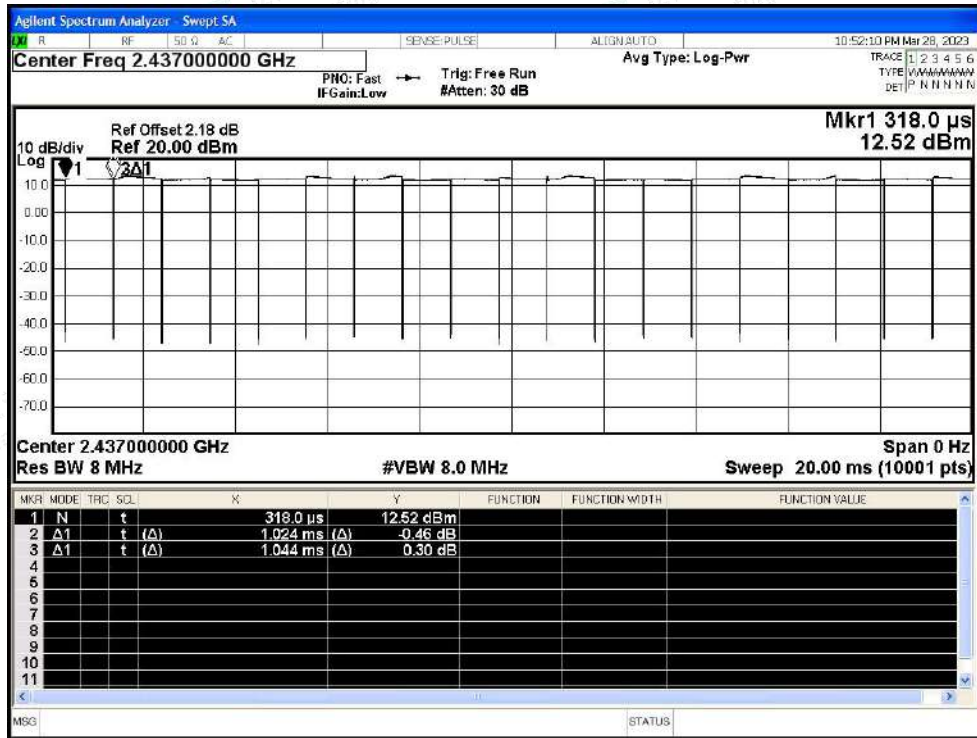


Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



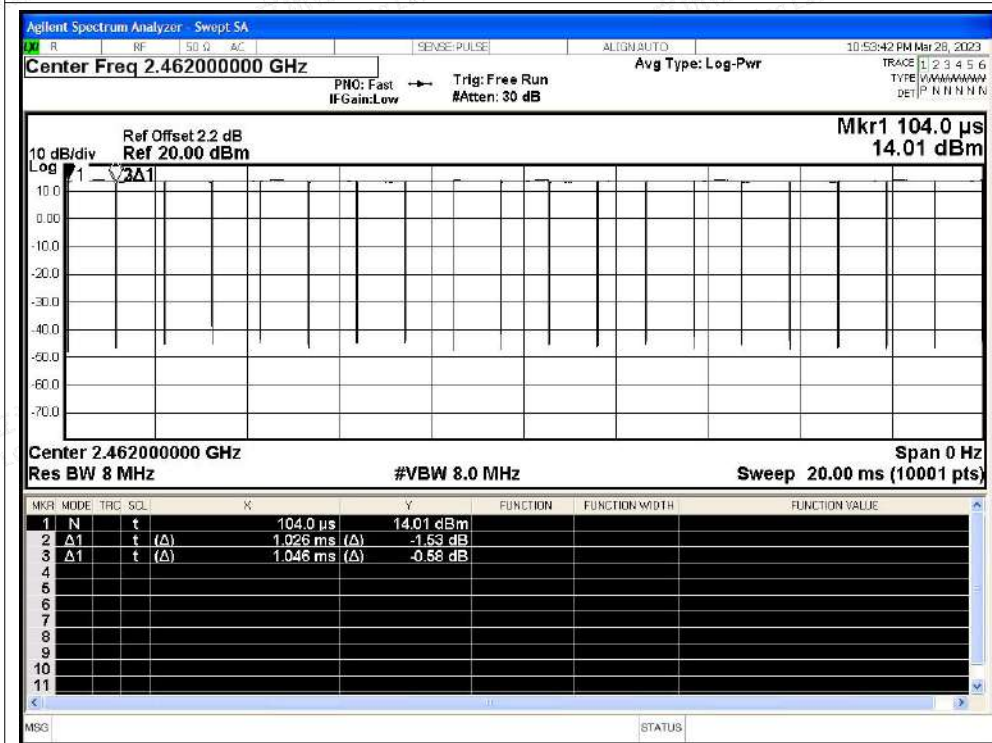
Duty Cycle NVNT b 2437MHz Ant1



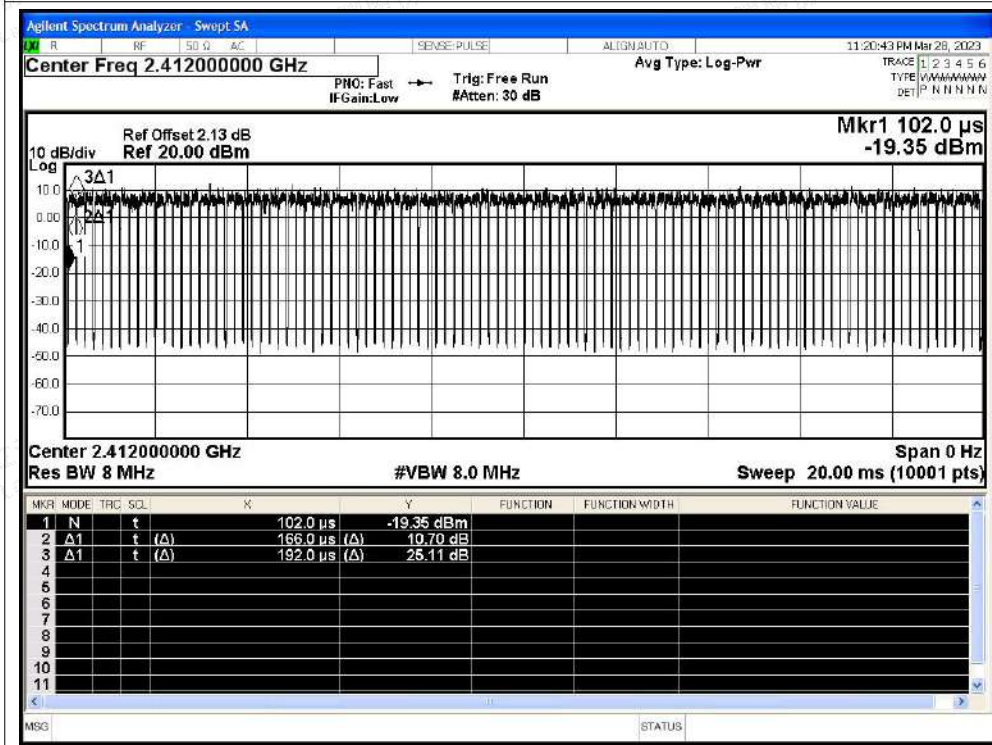




Duty Cycle NVNT b 2462MHz Ant1

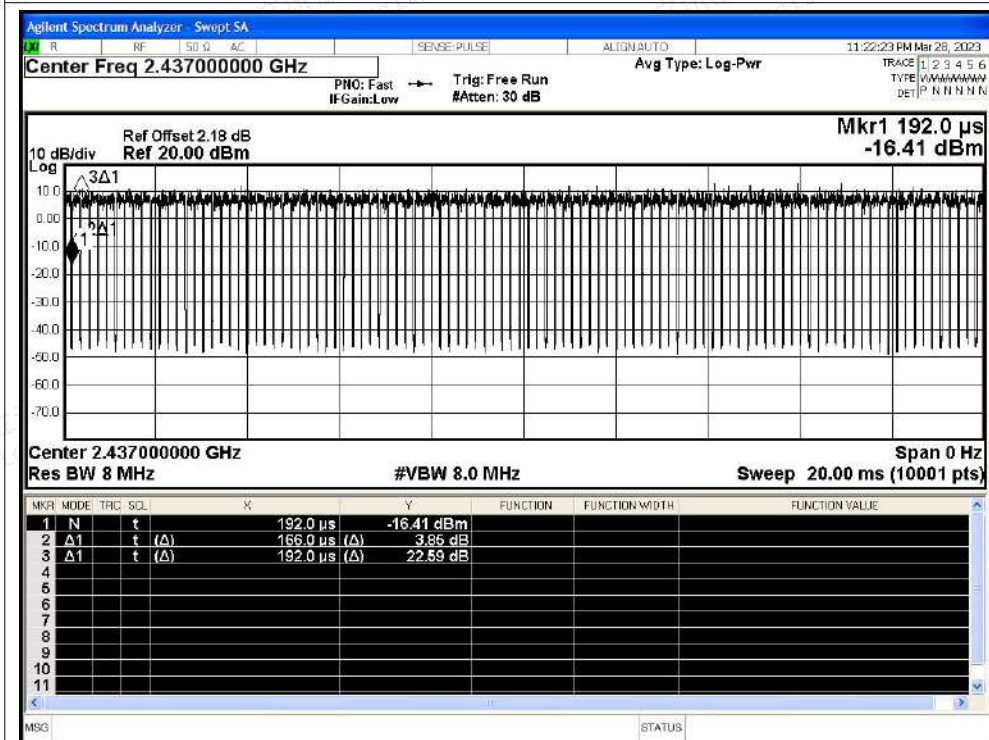


Duty Cycle NVNT g 2412MHz Ant1

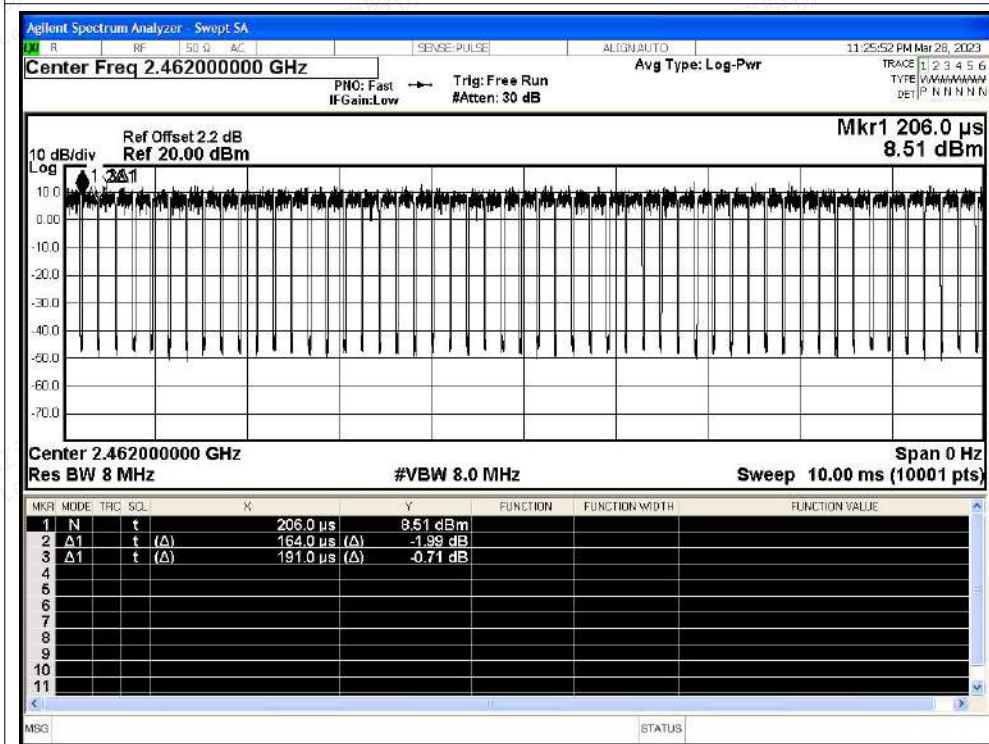




Duty Cycle NVNT g 2437MHz Ant1

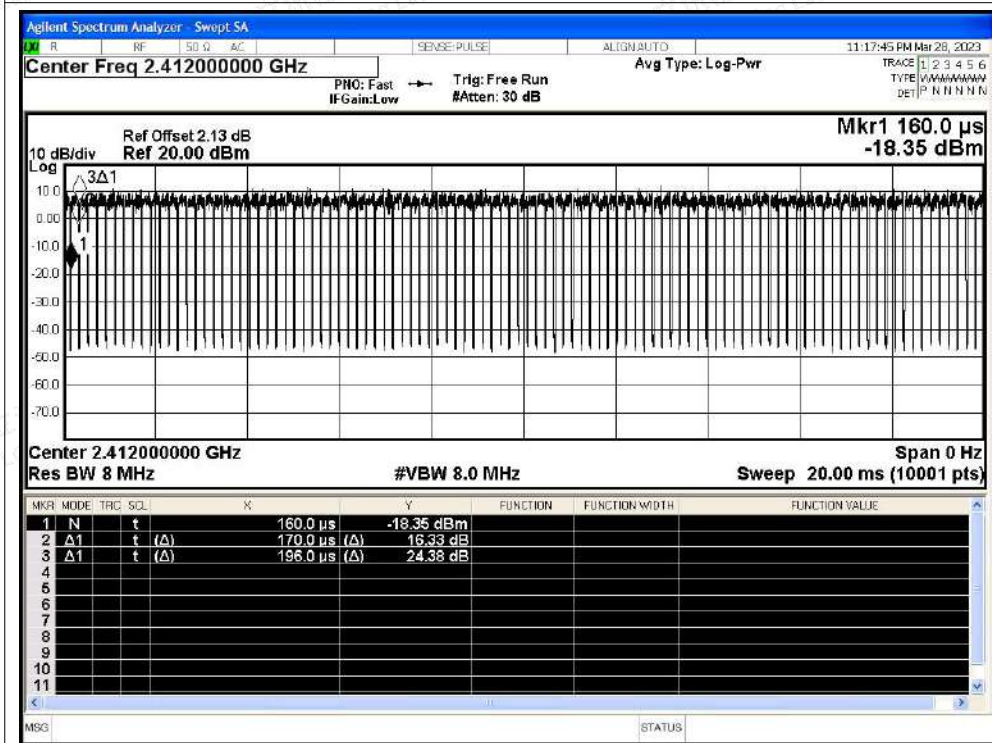


Duty Cycle NVNT g 2462MHz Ant1

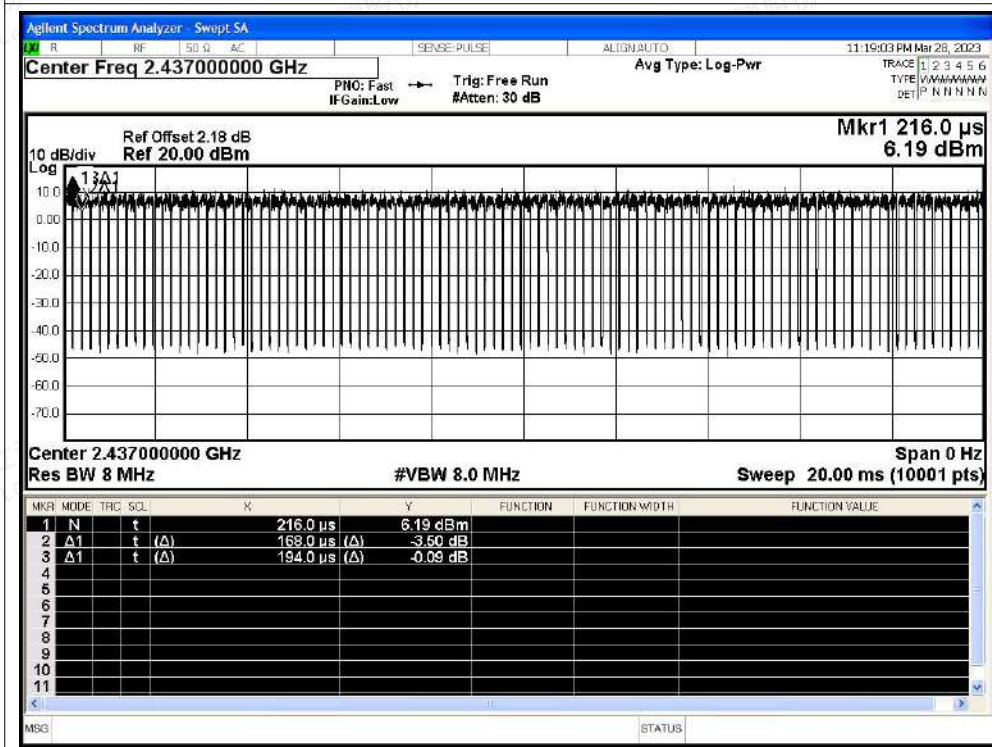




Duty Cycle NVNT n20 2412MHz Ant1

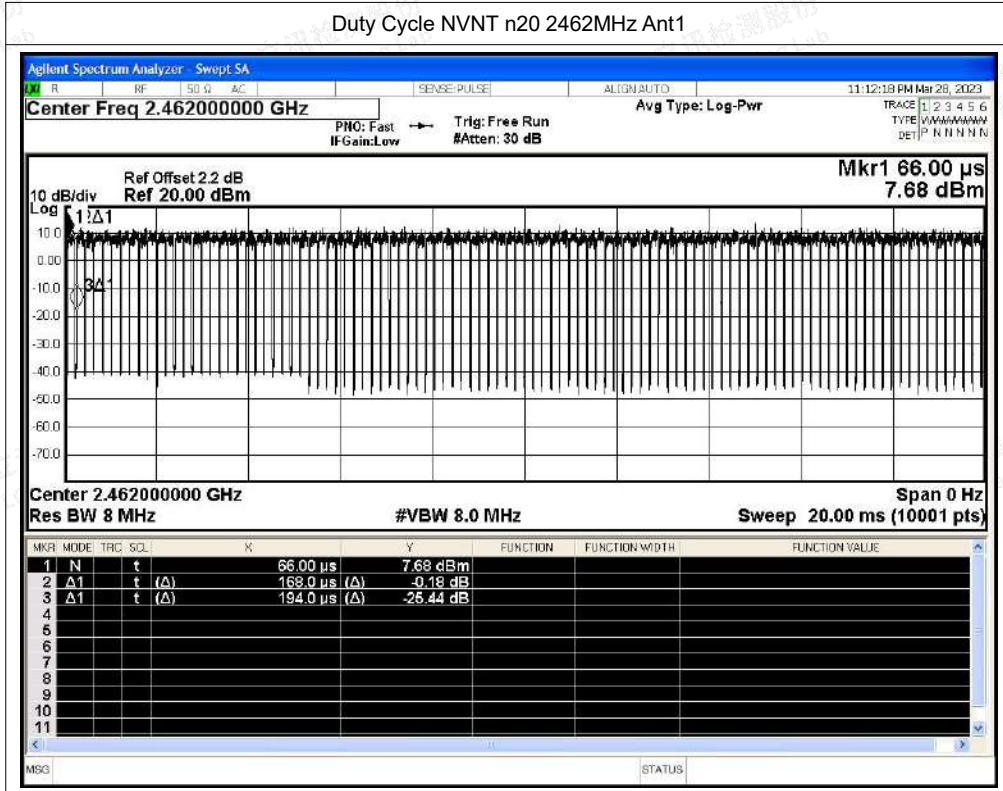


Duty Cycle NVNT n20 2437MHz Ant1





Duty Cycle NVNT n20 2462MHz Ant1







### B.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-51.83	2	45.43	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-59.95	2	37.31	Average	54	Pass
NVNT	b	2412	Ant1	2322.753	-47.7	2	49.56	Peak	74	Pass
NVNT	b	2412	Ant1	2389.911	-57.47	2	39.79	Average	54	Pass
NVNT	b	2412	Ant1	2390	-47.83	2	49.43	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-57.15	2	40.11	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-43.39	2	53.87	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-49.65	2	47.61	Average	54	Pass
NVNT	b	2462	Ant1	2483.57	-42.95	2	54.31	Peak	74	Pass
NVNT	b	2462	Ant1	2483.517	-49.65	2	47.61	Average	54	Pass
NVNT	b	2462	Ant1	2500	-48.85	2	48.41	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-59.49	2	37.77	Average	54	Pass
NVNT	g	2412	Ant1	2310	-50.78	2	46.48	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-58.98	2	38.28	Average	54	Pass
NVNT	g	2412	Ant1	2389.794	-42.92	2	54.34	Peak	74	Pass
NVNT	g	2412	Ant1	2389.911	-54.18	2	43.08	Average	54	Pass
NVNT	g	2412	Ant1	2390	-44.49	2	52.77	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-53.48	2	43.78	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-36.13	2	61.13	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-47.54	2	49.72	Average	54	Pass
NVNT	g	2462	Ant1	2483.517	-36.13	2	61.13	Peak	74	Pass
NVNT	g	2462	Ant1	2483.517	-47.54	2	49.72	Average	54	Pass
NVNT	g	2462	Ant1	2500	-50.89	2	46.37	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-58.39	2	38.87	Average	54	Pass
NVNT	n20	2412	Ant1	2310	-50	2	47.26	Peak	74	Pass
NVNT	n20	2412	Ant1	2310	-58.74	2	38.52	Average	54	Pass
NVNT	n20	2412	Ant1	2389.911	-40.05	2	57.21	Peak	74	Pass
NVNT	n20	2412	Ant1	2389.911	-53.58	2	43.68	Average	54	Pass
NVNT	n20	2412	Ant1	2390	-43.1	2	54.16	Peak	74	Pass
NVNT	n20	2412	Ant1	2390	-53.49	2	43.77	Average	54	Pass
NVNT	n20	2462	Ant1	2483.5	-35.82	2	61.44	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.5	-48.01	2	49.25	Average	54	Pass
NVNT	n20	2462	Ant1	2483.517	-35.82	2	61.44	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.676	-47.21	2	50.05	Average	54	Pass
NVNT	n20	2462	Ant1	2500	-50.04	2	47.22	Peak	74	Pass
NVNT	n20	2462	Ant1	2500	-58.34	2	38.92	Average	54	Pass



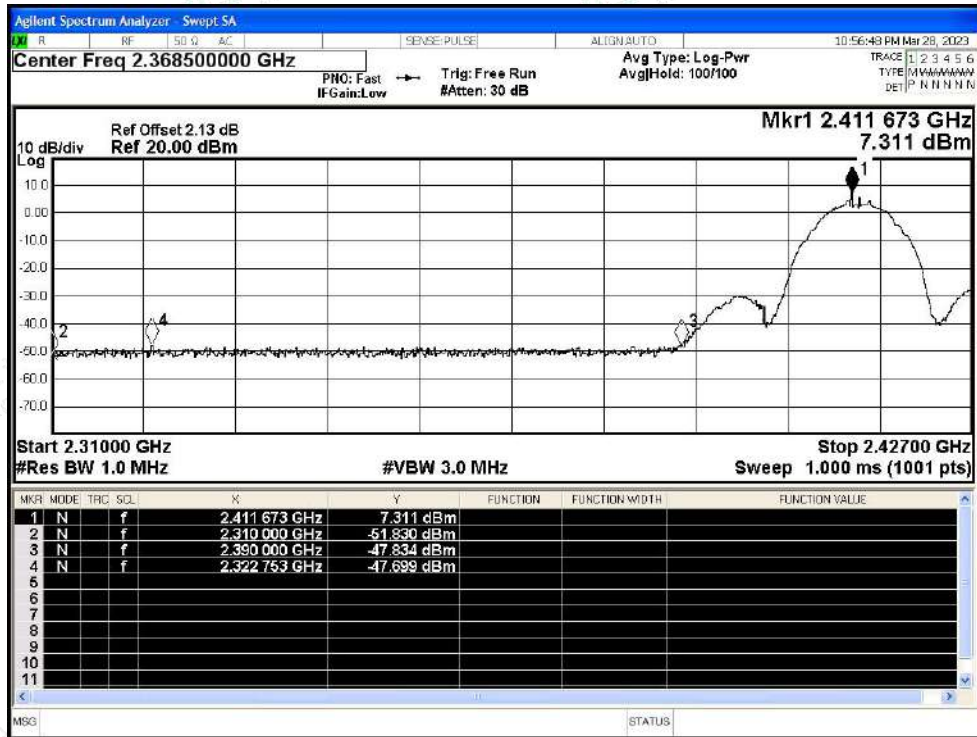
Shenzhen LCS Compliance Testing Laboratory Ltd.  
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China  
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com  
 Scan code to check authenticity





Test Graphs

Restrict Band NVNT b 2412MHz Ant1 Peak

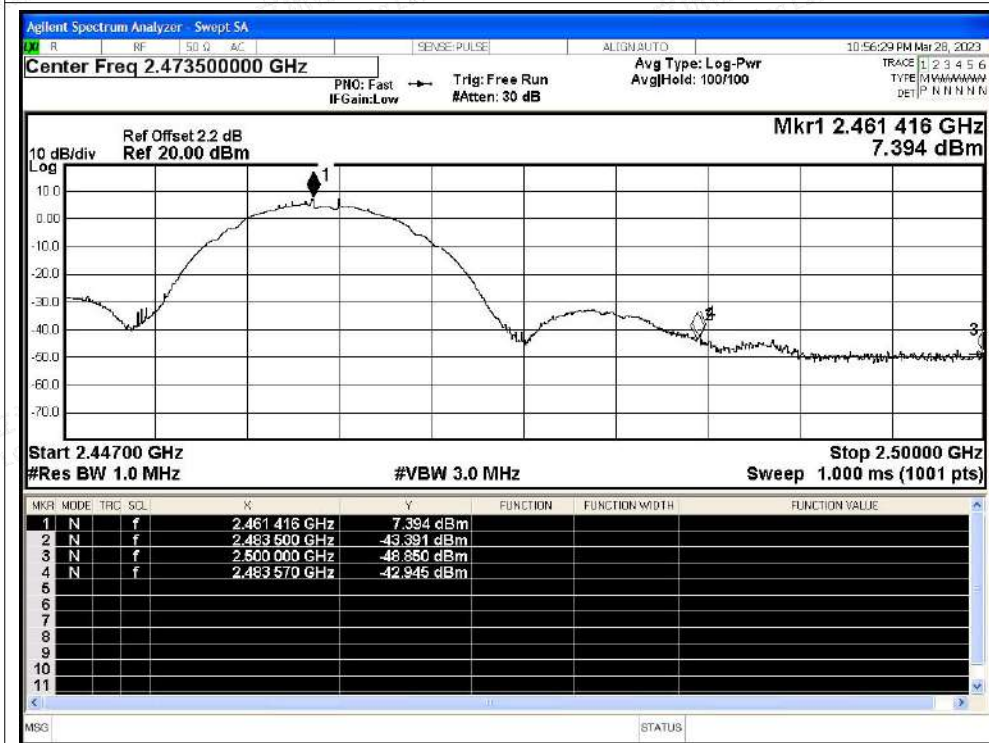


Restrict Band NVNT b 2412MHz Ant1 Average

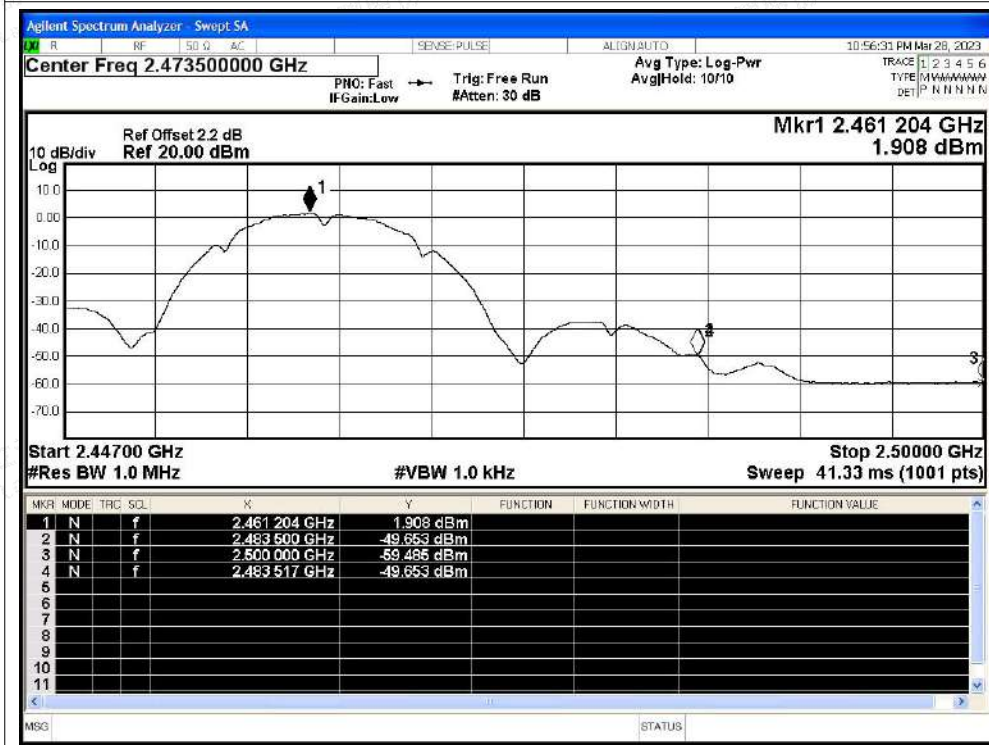




Restrict Band NVNT b 2462MHz Ant1 Peak

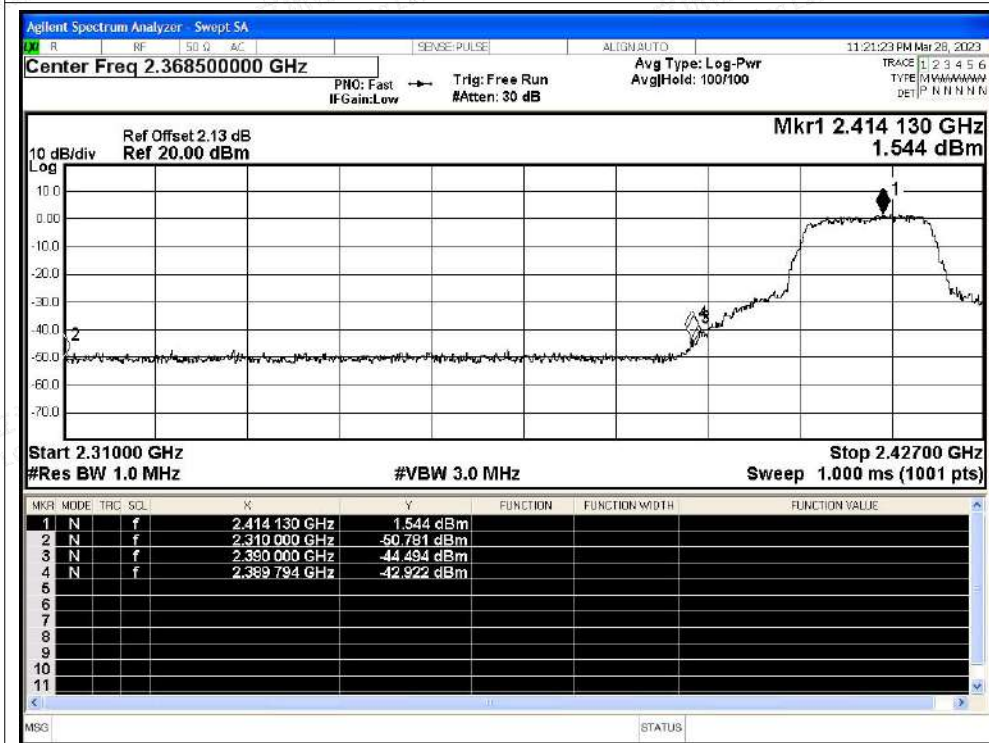


Restrict Band NVNT b 2462MHz Ant1 Average

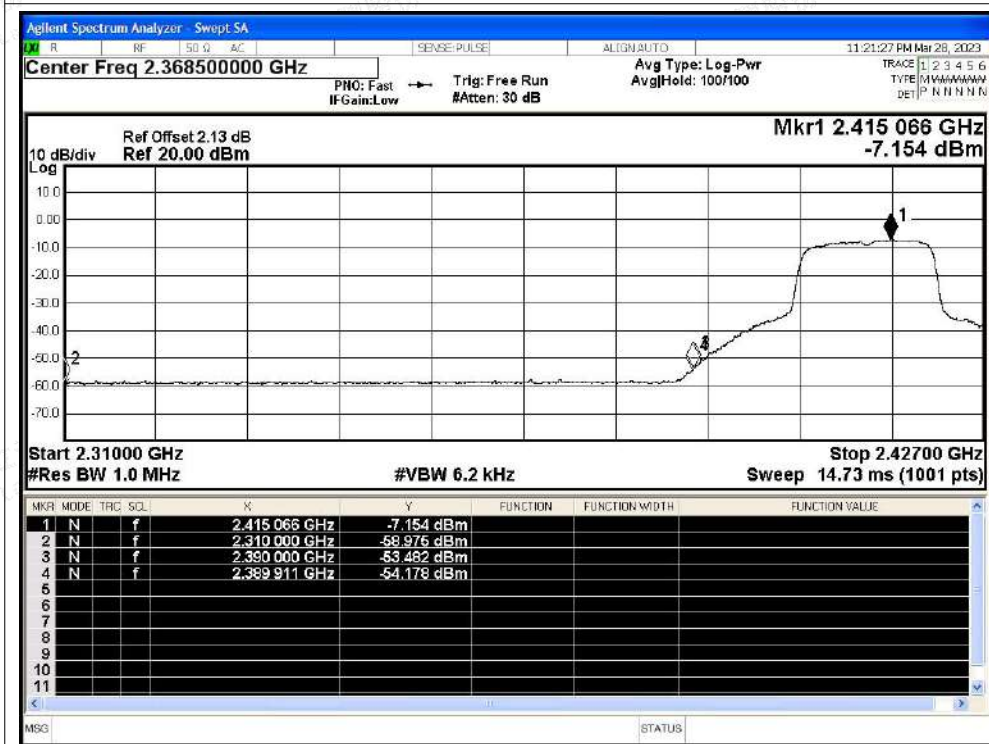




Restrict Band NVNT g 2412MHz Ant1 Peak

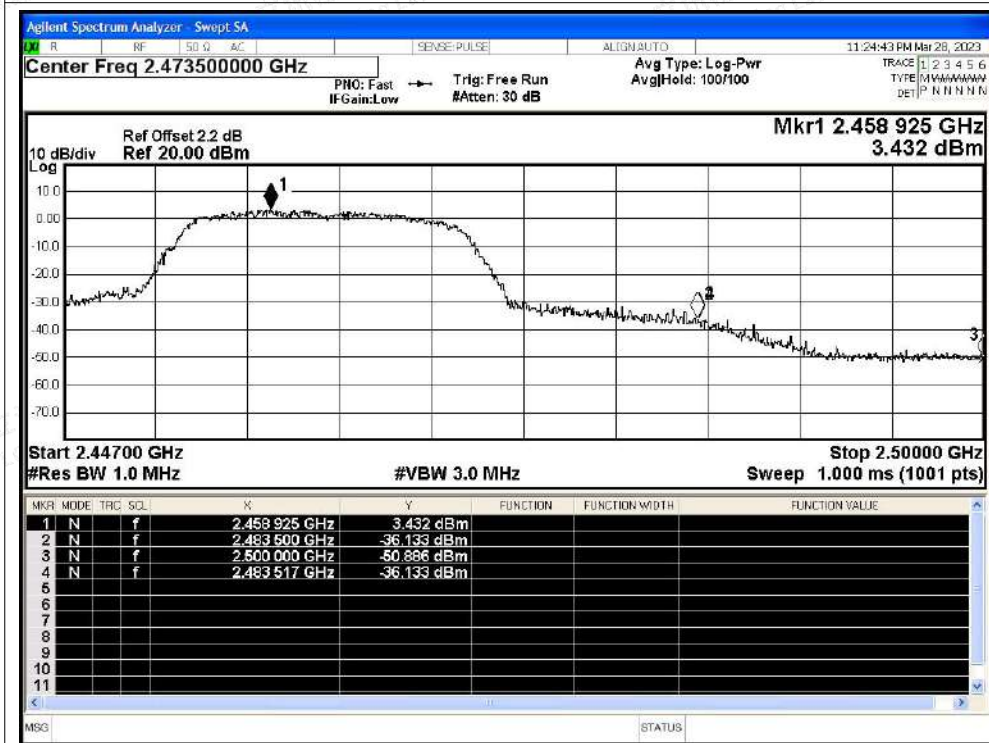


Restrict Band NVNT g 2412MHz Ant1 Average

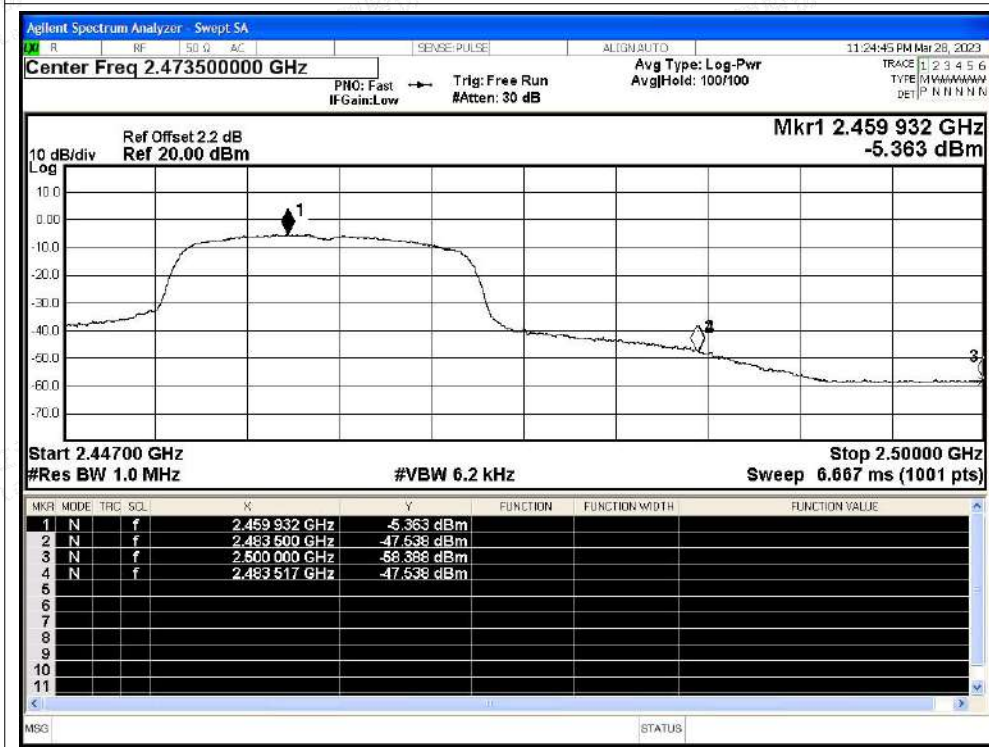




Restrict Band NVNT g 2462MHz Ant1 Peak



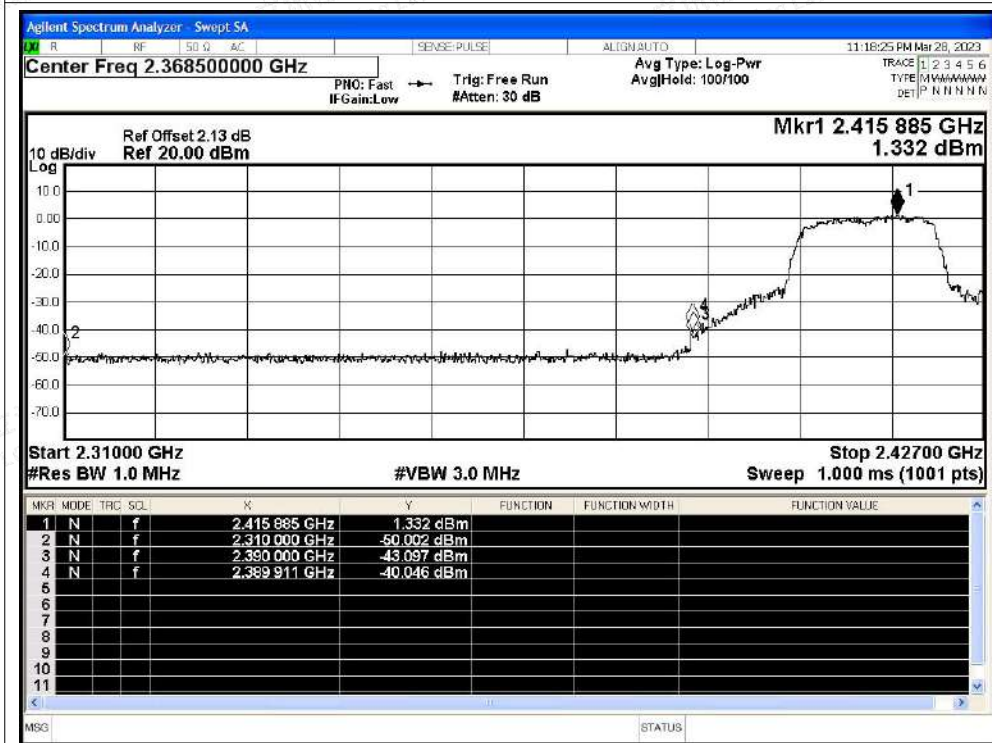
Restrict Band NVNT g 2462MHz Ant1 Average



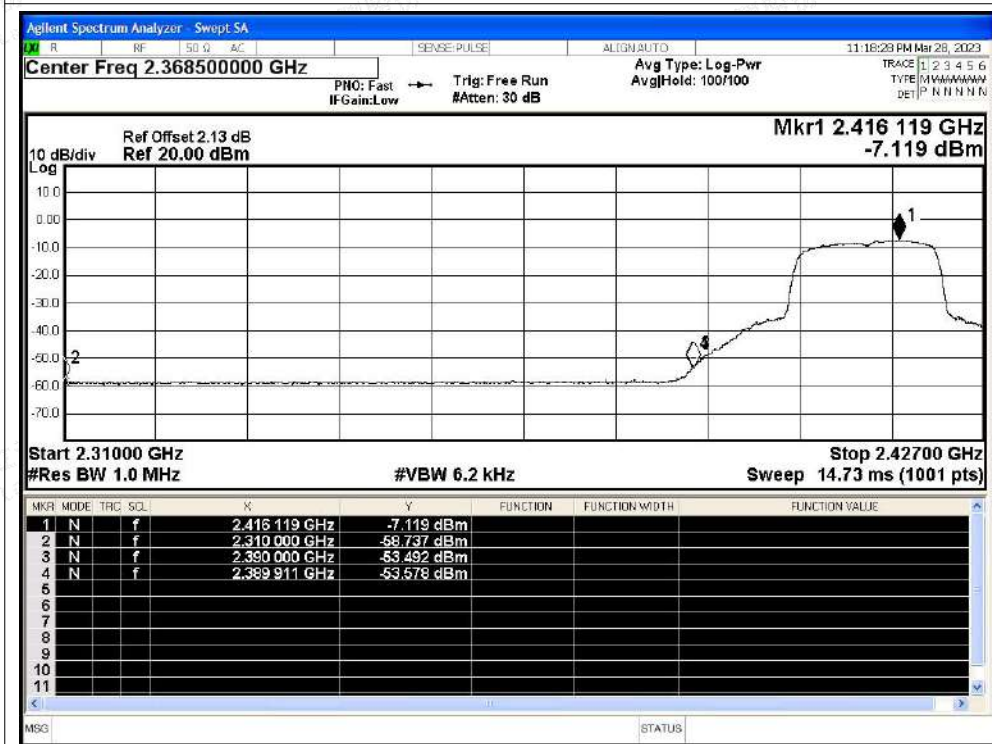




Restrict Band NVNT n20 2412MHz Ant1 Peak



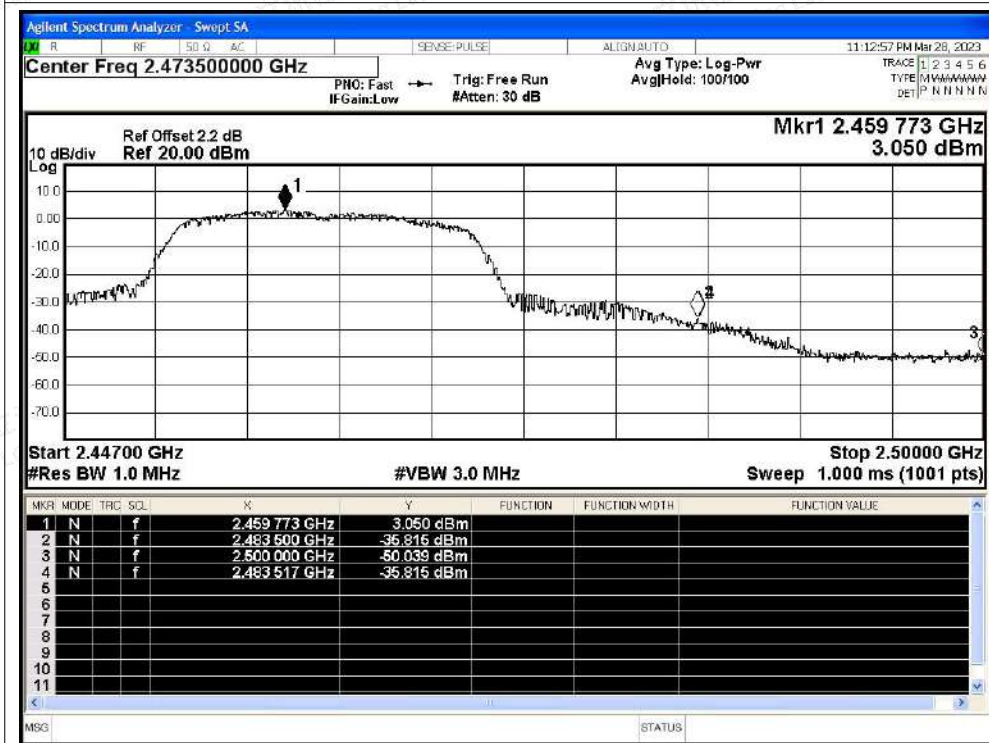
Restrict Band NVNT n20 2412MHz Ant1 Average







Restrict Band NVNT n20 2462MHz Ant1 Peak



Restrict Band NVNT n20 2462MHz Ant1 Average

