Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: INTERACTIVE SMART BOARD

Test Model: TP-660H68

Environmental Conditions

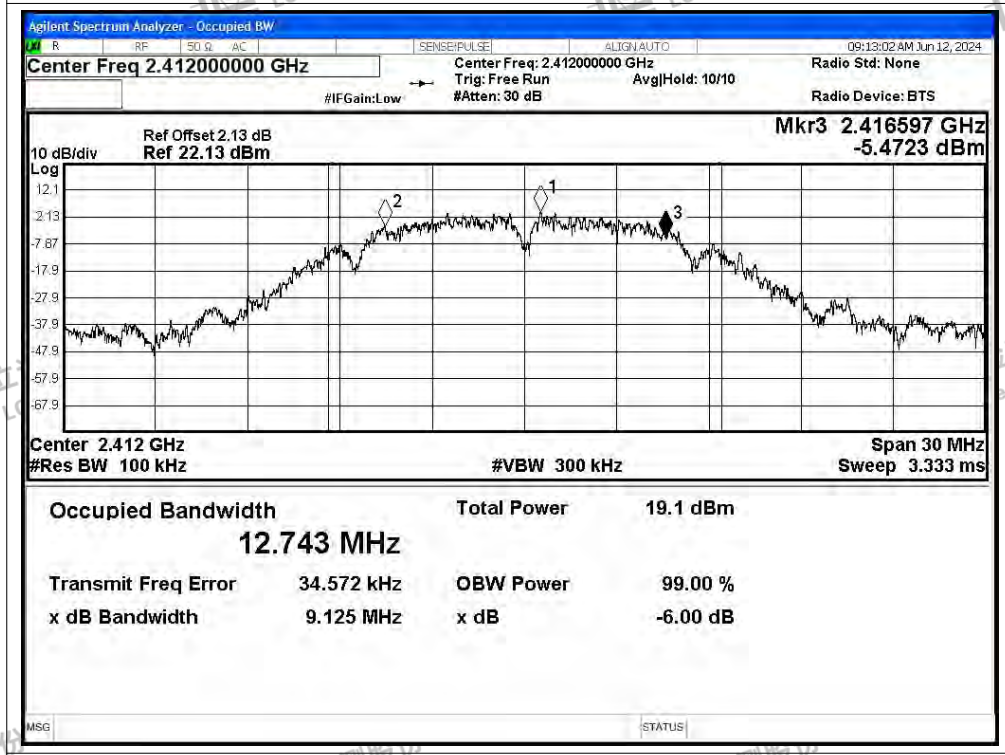
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng

C.1 -6dB Bandwidth

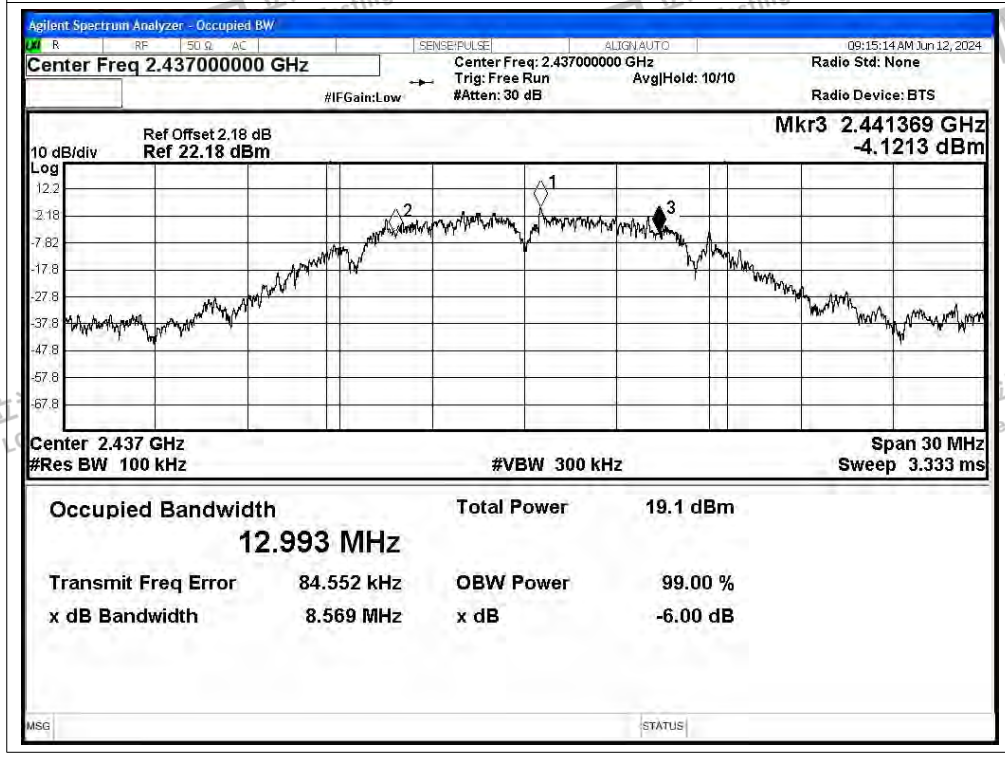
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant2	9.125	>=0.5	Pass
NVNT	b	2437	Ant2	8.569	>=0.5	Pass
NVNT	b	2462	Ant2	9.572	>=0.5	Pass
NVNT	g	2412	Ant2	16.346	>=0.5	Pass
NVNT	g	2437	Ant2	16.372	>=0.5	Pass
NVNT	g	2462	Ant2	15.897	>=0.5	Pass
NVNT	n20	2412	Ant2	15.274	>=0.5	Pass
NVNT	n20	2437	Ant2	15.95	>=0.5	Pass
NVNT	n20	2462	Ant2	17.569	>=0.5	Pass
NVNT	n40	2422	Ant2	34.981	>=0.5	Pass
NVNT	n40	2437	Ant2	32.399	>=0.5	Pass
NVNT	n40	2452	Ant2	31.372	>=0.5	Pass
NVNT	ax20	2412	Ant2	17.512	>=0.5	Pass
NVNT	ax20	2437	Ant2	15.032	>=0.5	Pass
NVNT	ax20	2462	Ant2	13.824	>=0.5	Pass
NVNT	ax40	2422	Ant2	35.125	>=0.5	Pass
NVNT	ax40	2437	Ant2	35.081	>=0.5	Pass
NVNT	ax40	2452	Ant2	35.073	>=0.5	Pass

Test Graphs

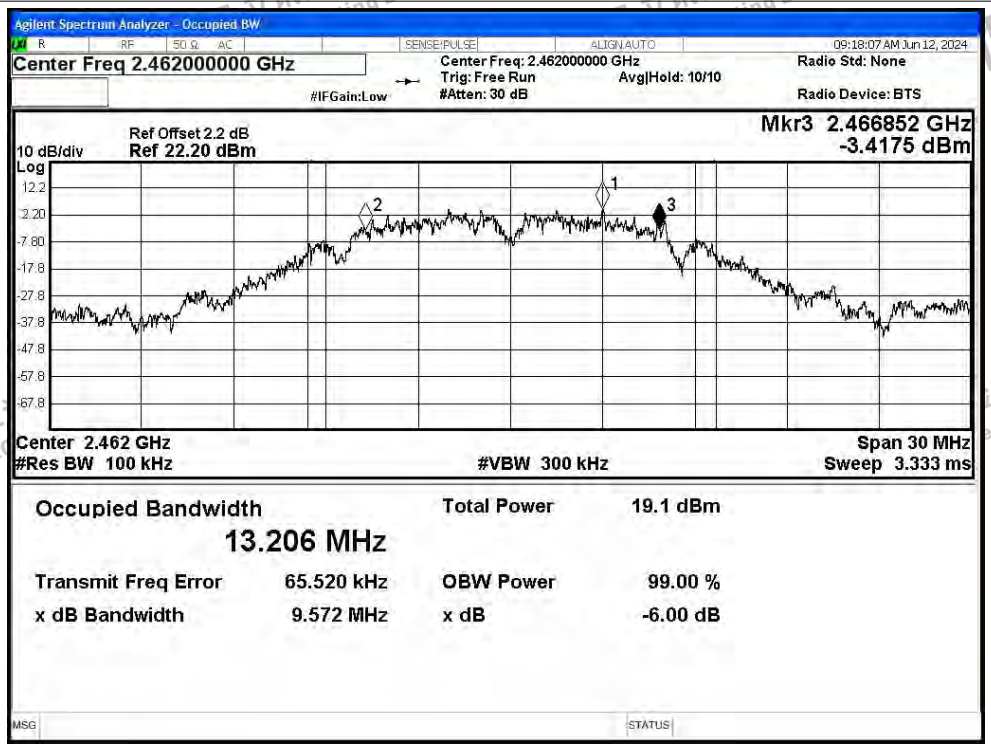
-6dB Bandwidth NVNT b 2412MHz Ant2



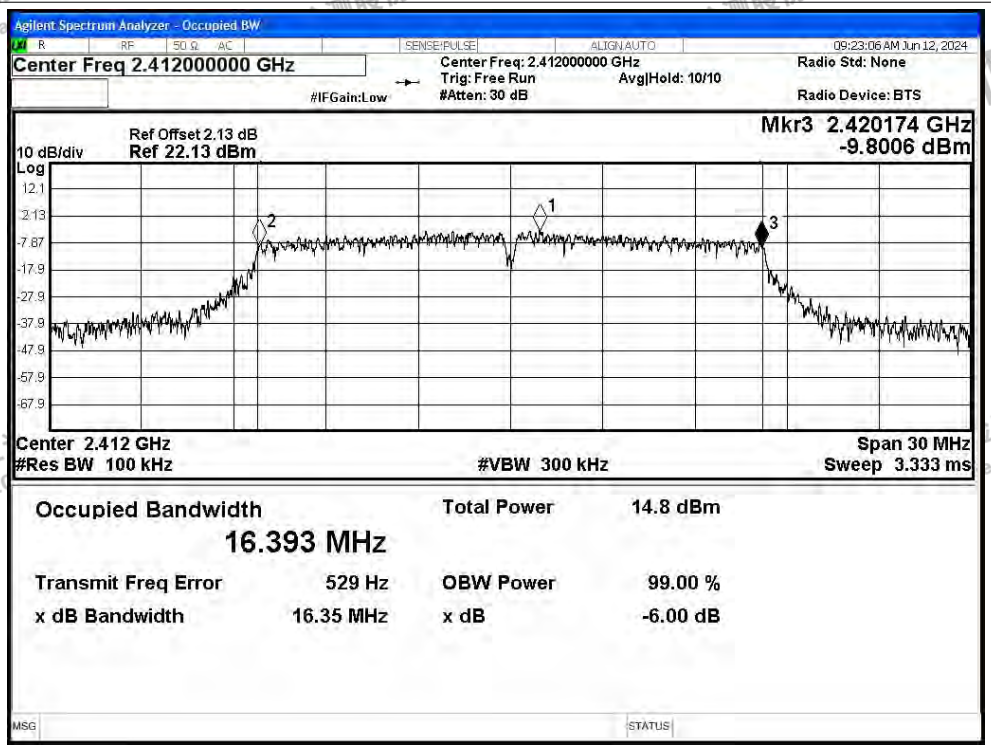
-6dB Bandwidth NVNT b 2437MHz Ant2



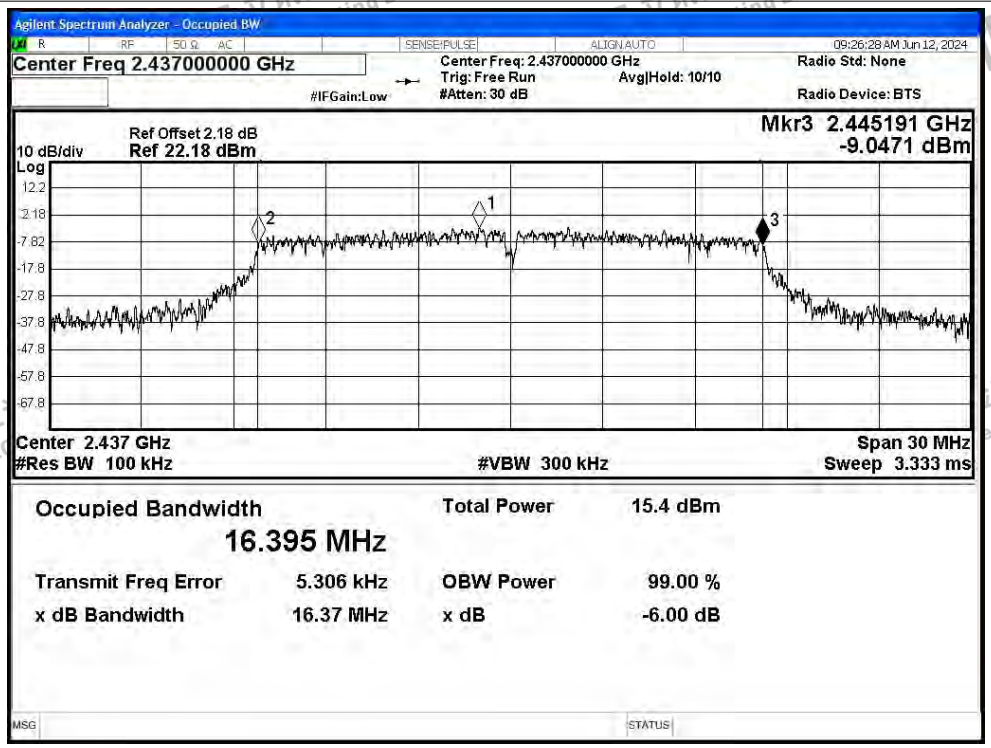
-6dB Bandwidth NVNT b 2462MHz Ant2



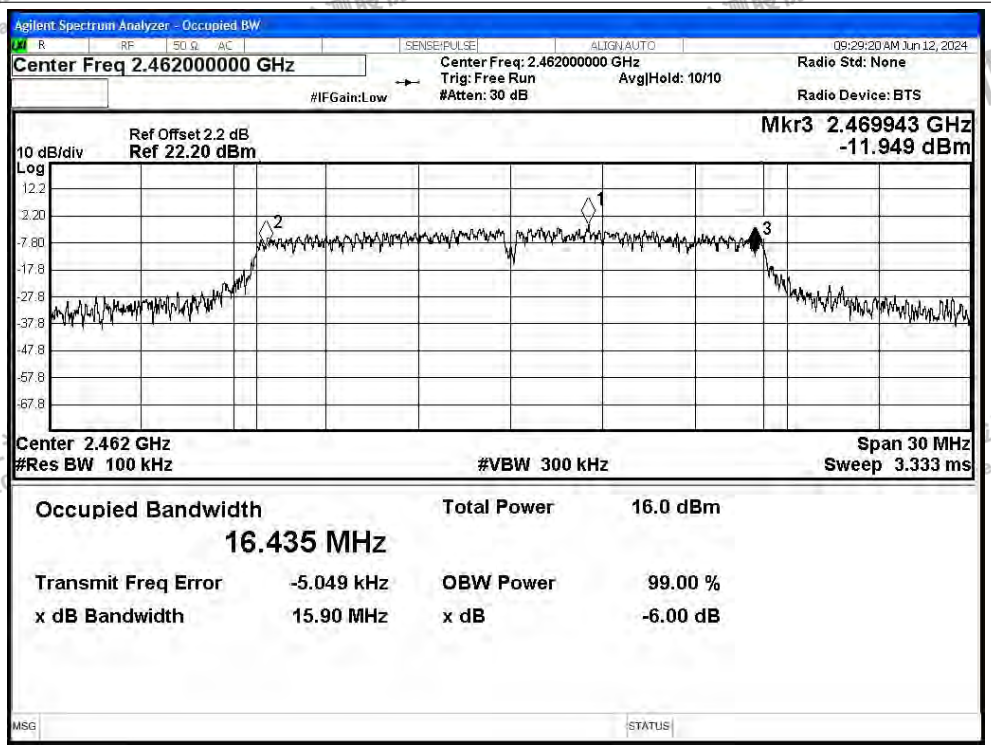
-6dB Bandwidth NVNT g 2412MHz Ant2



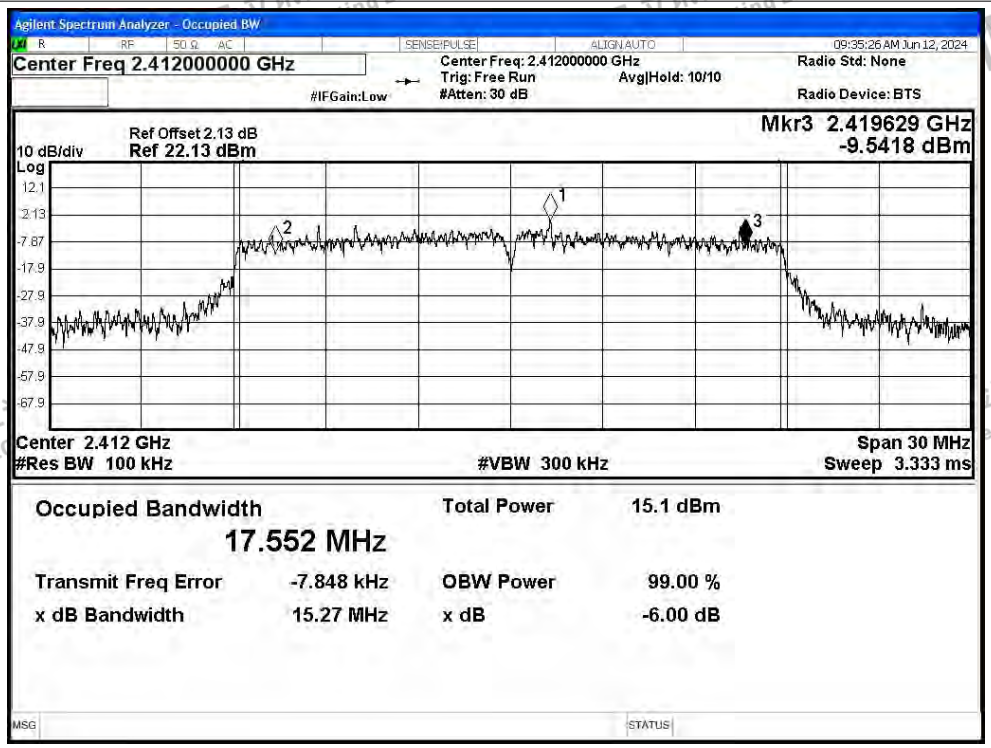
-6dB Bandwidth NVNT g 2437MHz Ant2



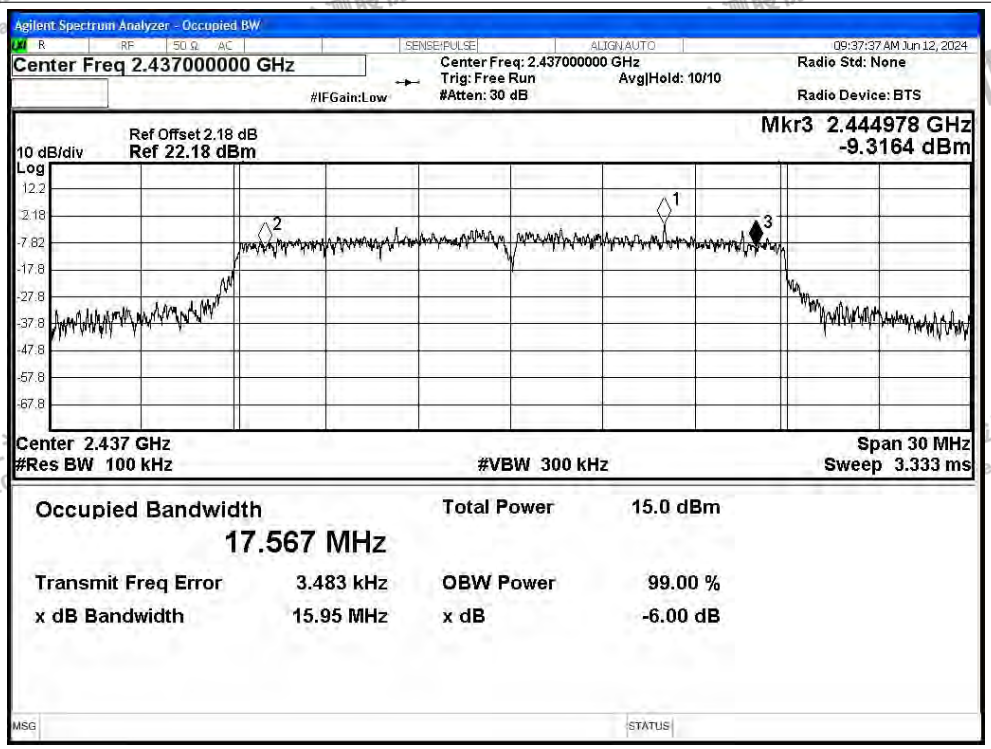
-6dB Bandwidth NVNT g 2462MHz Ant2



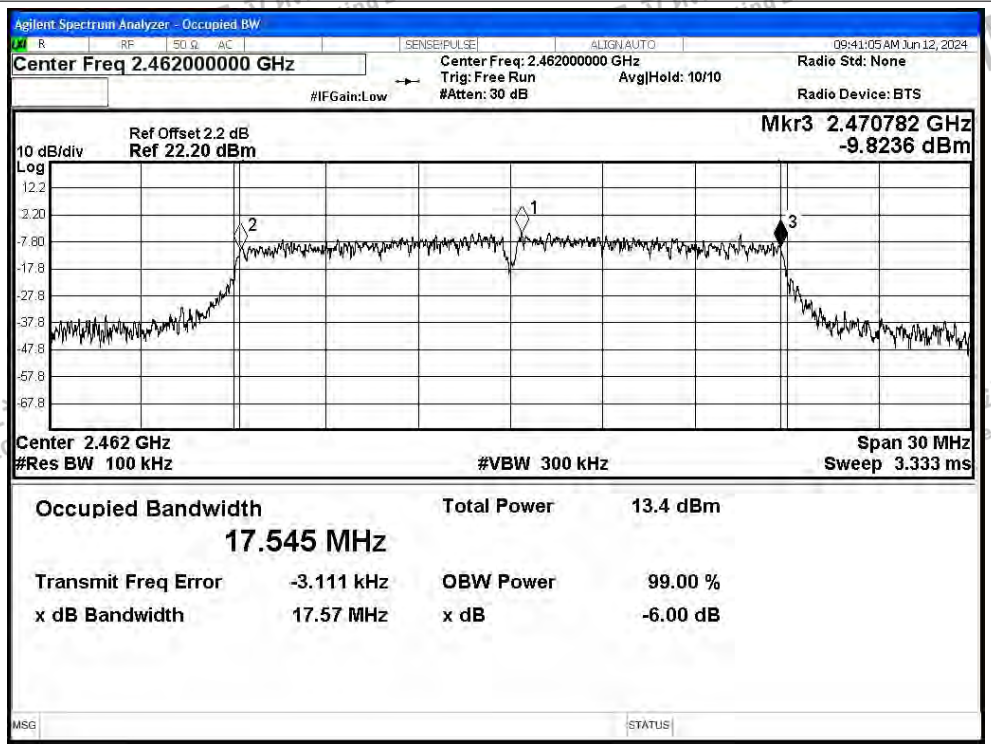
-6dB Bandwidth NVNT n20 2412MHz Ant2



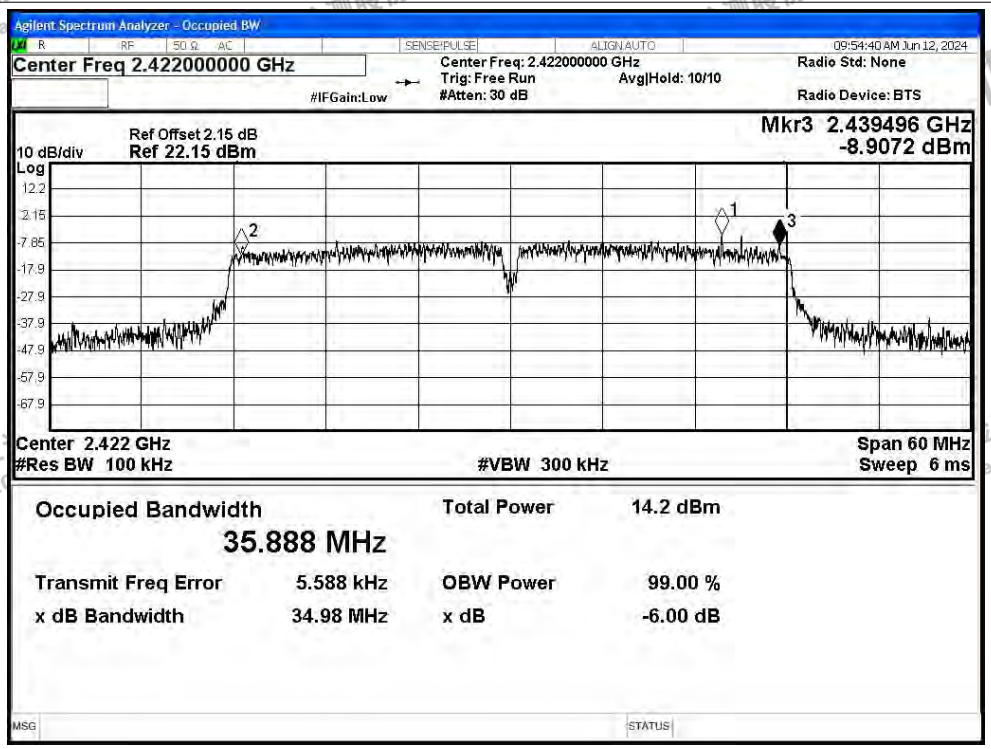
-6dB Bandwidth NVNT n20 2437MHz Ant2



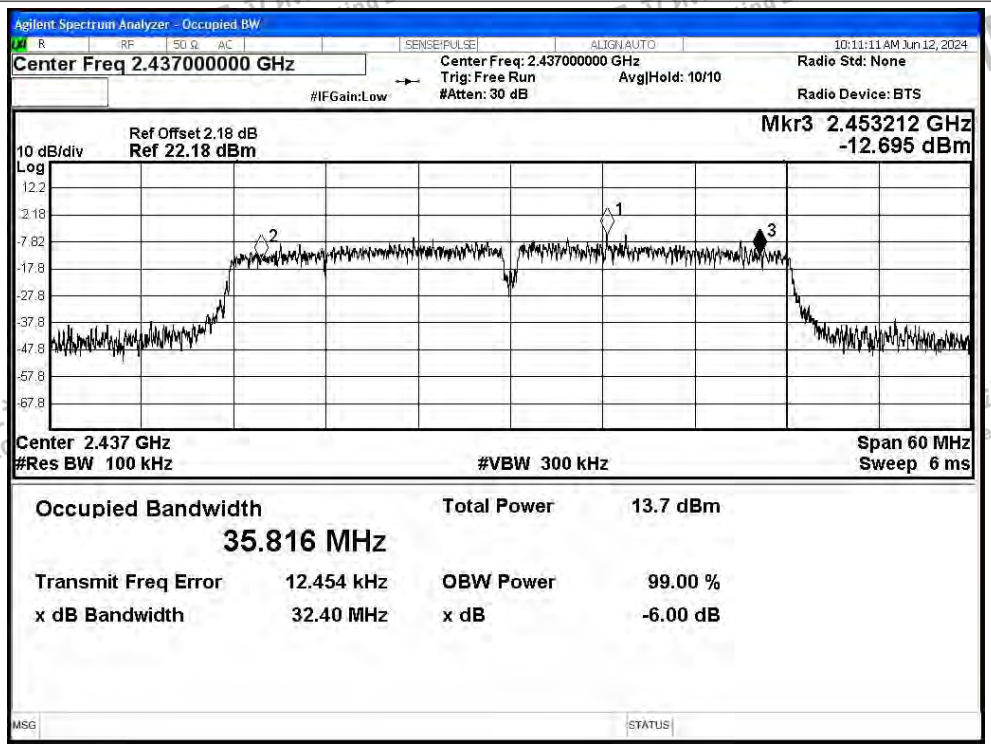
-6dB Bandwidth NVNT n20 2462MHz Ant2



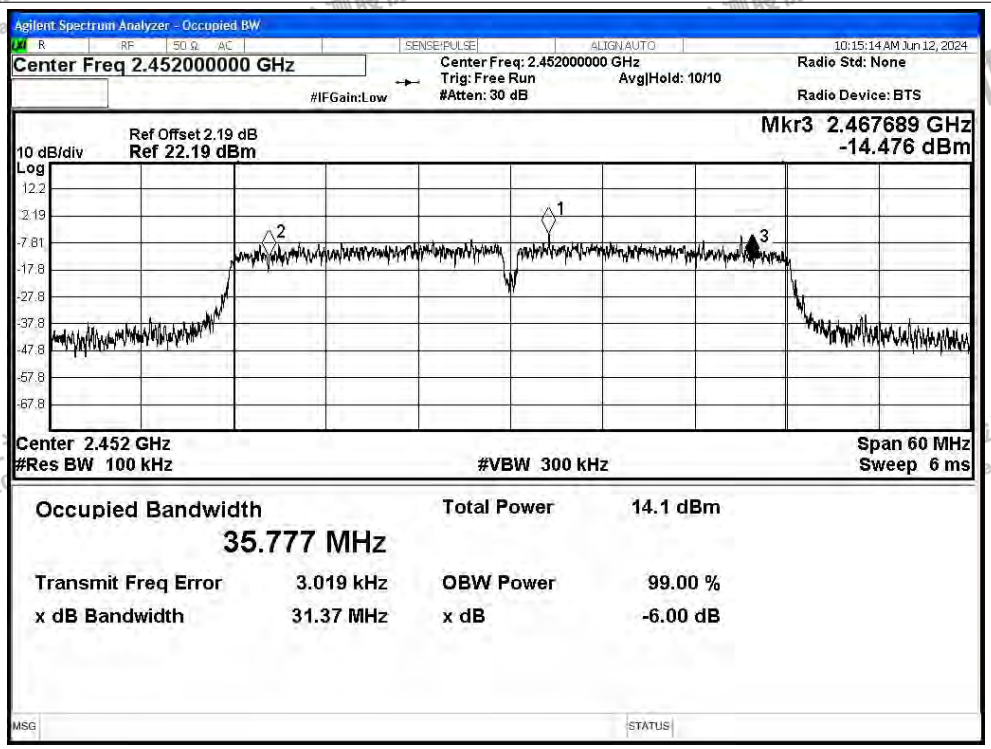
-6dB Bandwidth NVNT n40 2422MHz Ant2



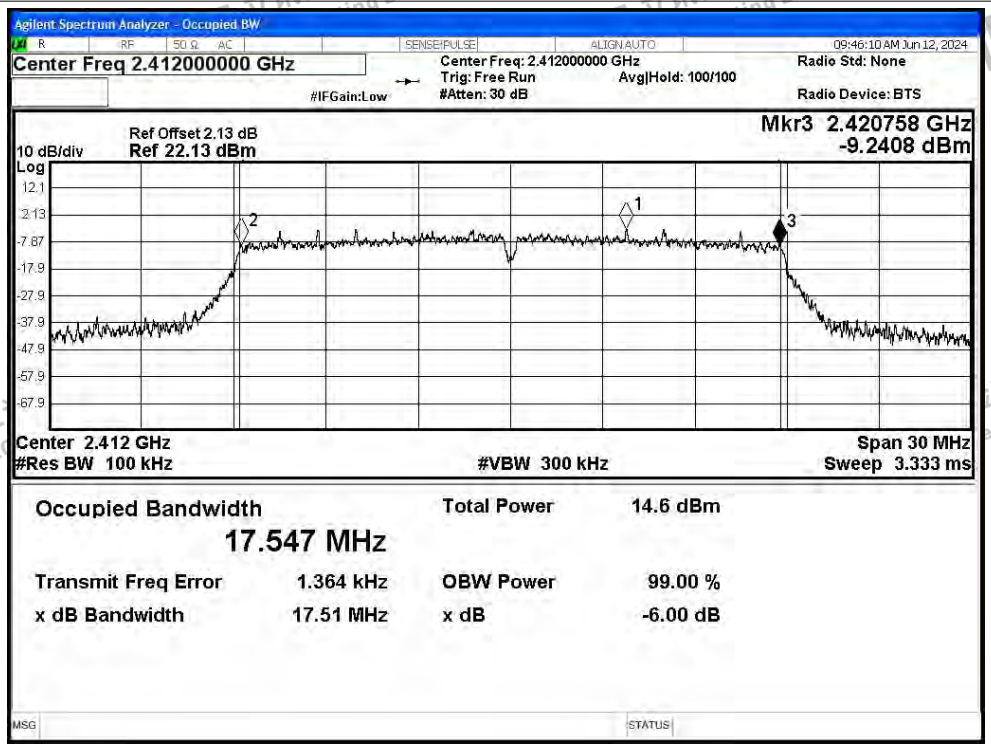
-6dB Bandwidth NVNT n40 2437MHz Ant2



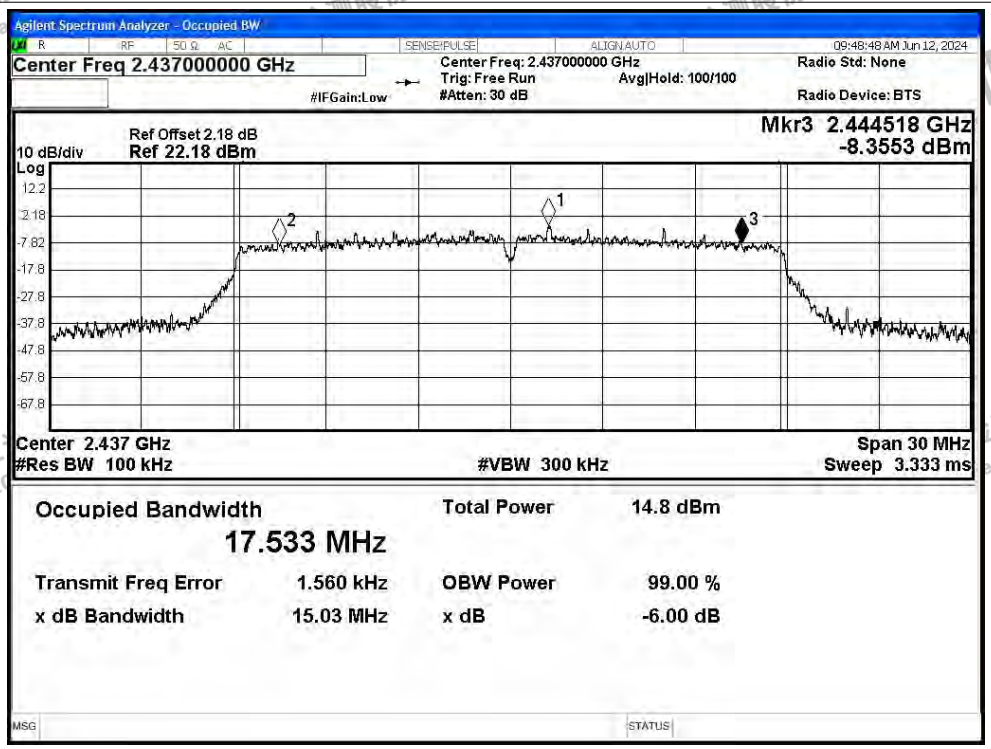
-6dB Bandwidth NVNT n40 2452MHz Ant2



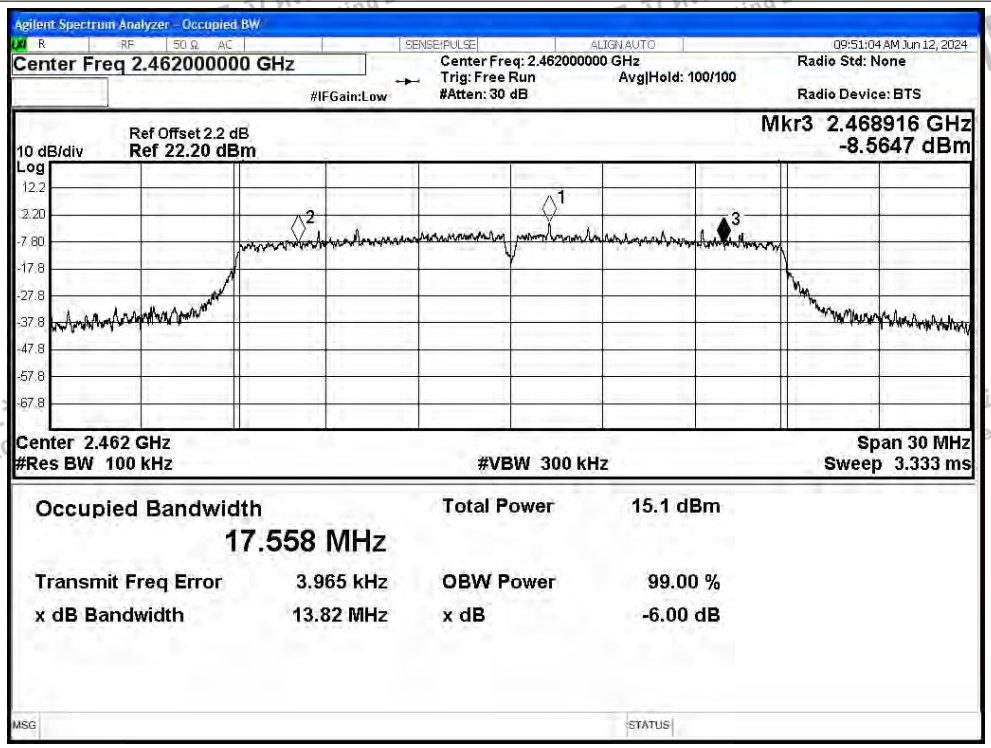
-6dB Bandwidth NVNT ax20 2412MHz Ant2



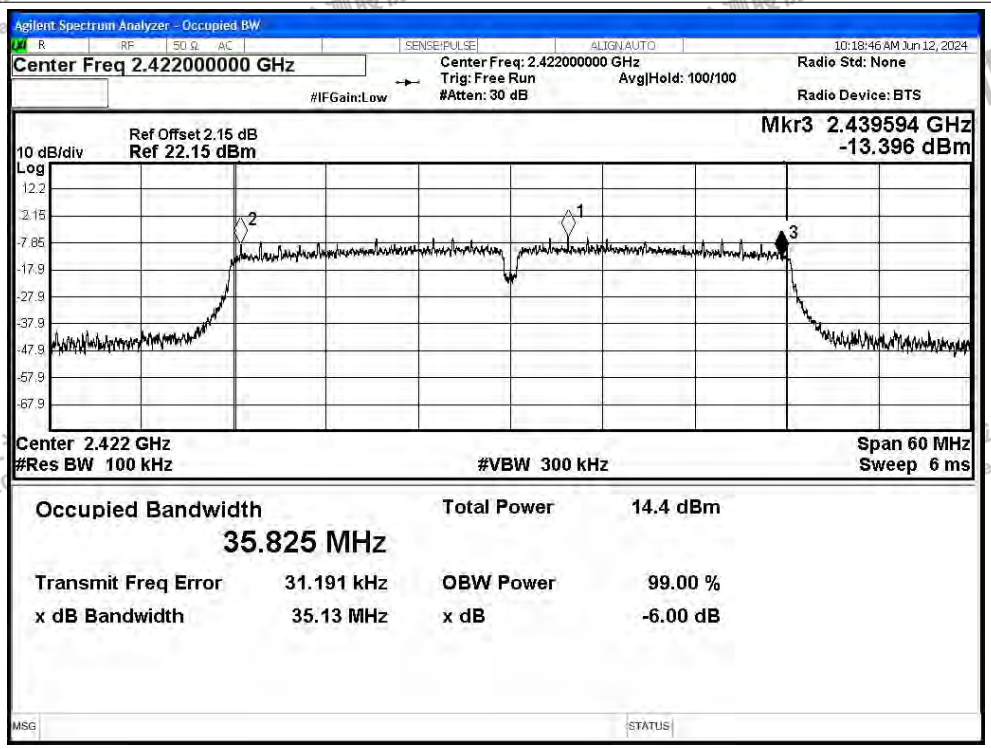
-6dB Bandwidth NVNT ax20 2437MHz Ant2



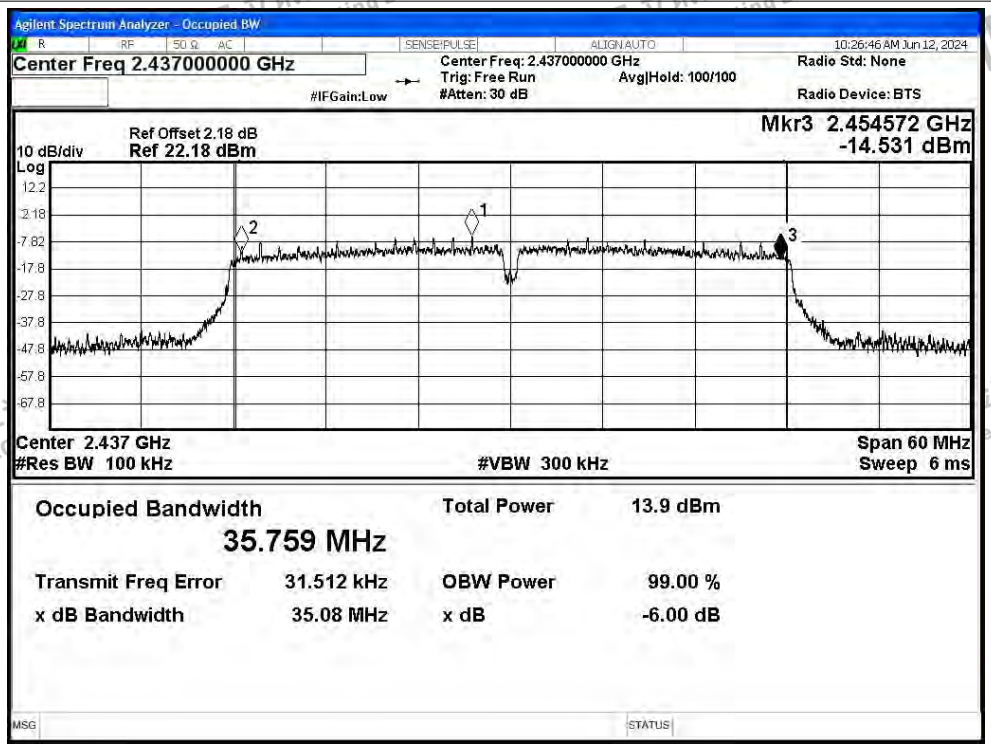
-6dB Bandwidth NVNT ax20 2462MHz Ant2



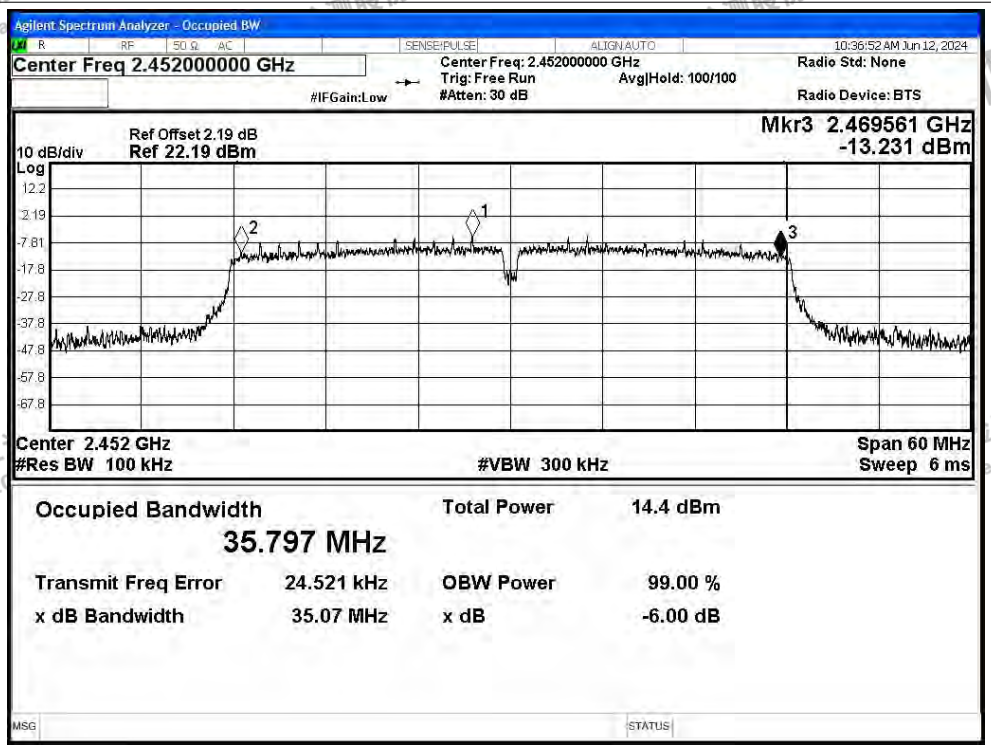
-6dB Bandwidth NVNT ax40 2422MHz Ant2



-6dB Bandwidth NVNT ax40 2437MHz Ant2



-6dB Bandwidth NVNT ax40 2452MHz Ant2



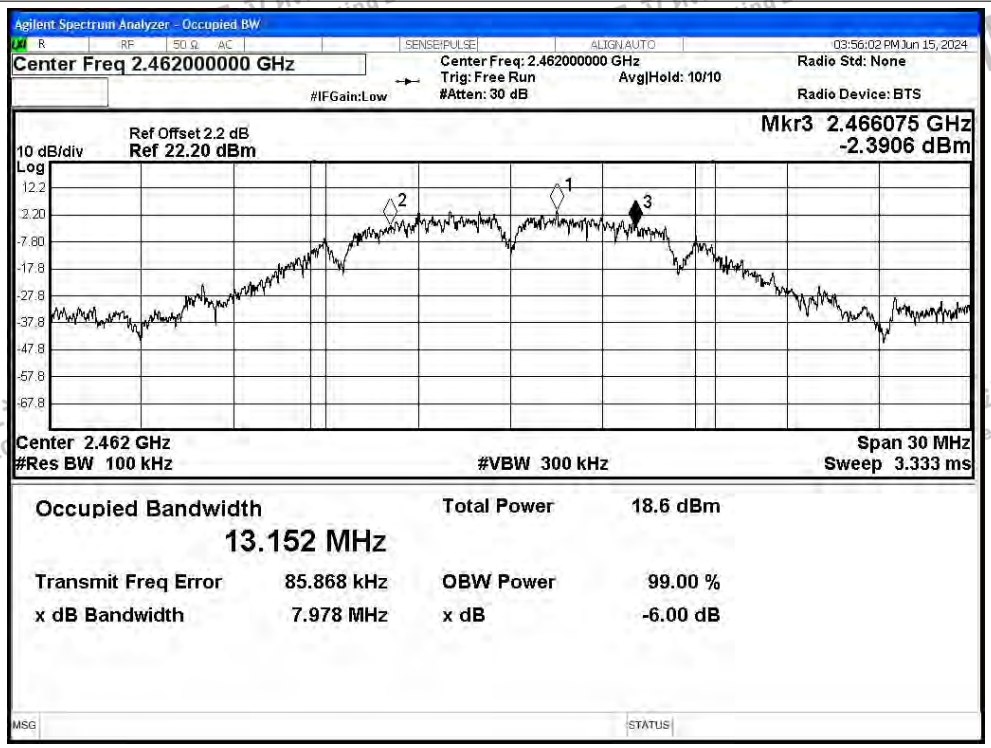
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant3	8.077	>=0.5	Pass
NVNT	b	2437	Ant3	8.576	>=0.5	Pass
NVNT	b	2462	Ant3	7.978	>=0.5	Pass
NVNT	g	2412	Ant3	16.353	>=0.5	Pass
NVNT	g	2437	Ant3	16.351	>=0.5	Pass
NVNT	g	2462	Ant3	16.34	>=0.5	Pass
NVNT	n20	2412	Ant3	17.244	>=0.5	Pass
NVNT	n20	2437	Ant3	17.224	>=0.5	Pass
NVNT	n20	2462	Ant3	17.552	>=0.5	Pass
NVNT	n40	2422	Ant3	31.547	>=0.5	Pass
NVNT	n40	2437	Ant3	30.268	>=0.5	Pass
NVNT	n40	2452	Ant3	27.273	>=0.5	Pass
NVNT	ax20	2412	Ant3	15.094	>=0.5	Pass
NVNT	ax20	2437	Ant3	15.052	>=0.5	Pass
NVNT	ax20	2462	Ant3	15.208	>=0.5	Pass
NVNT	ax40	2422	Ant3	33.79	>=0.5	Pass
NVNT	ax40	2437	Ant3	33.864	>=0.5	Pass
NVNT	ax40	2452	Ant3	35.111	>=0.5	Pass

Test Graphs

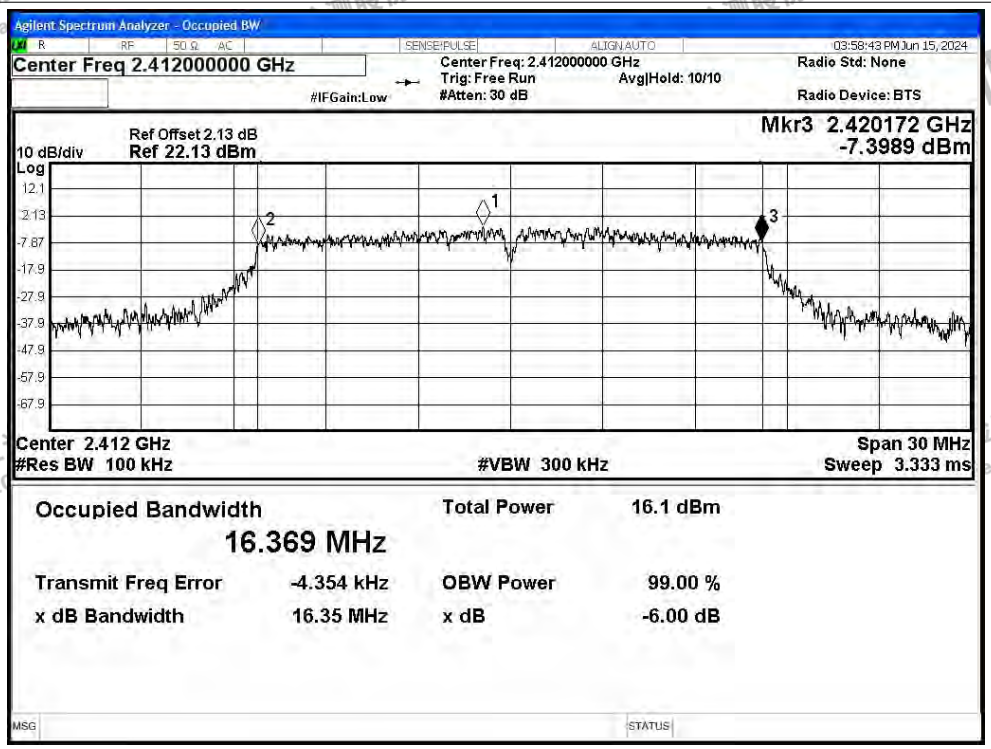
-6dB Bandwidth NVNT b 2412MHz Ant3

-6dB Bandwidth NVNT b 2437MHz Ant3

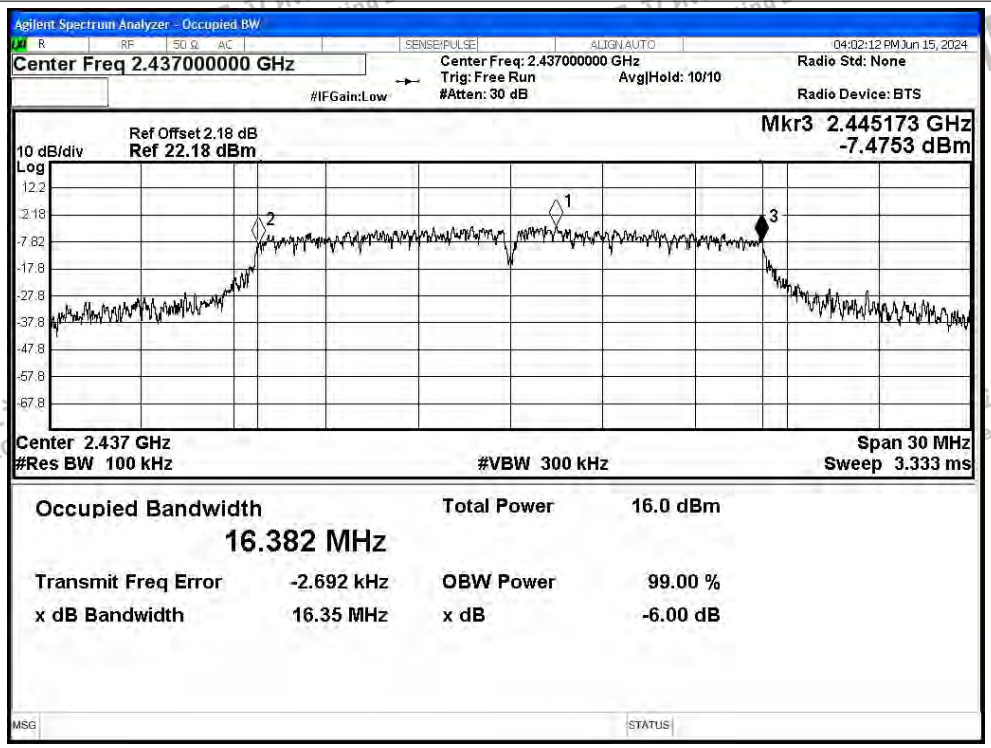
-6dB Bandwidth NVNT b 2462MHz Ant3



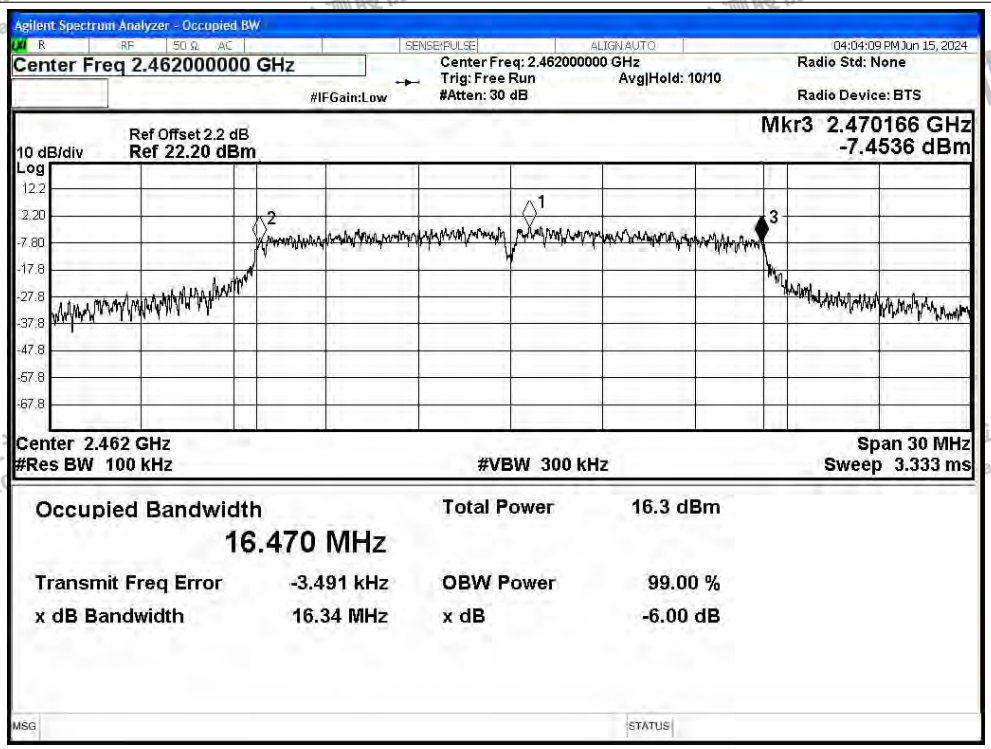
-6dB Bandwidth NVNT g 2412MHz Ant3



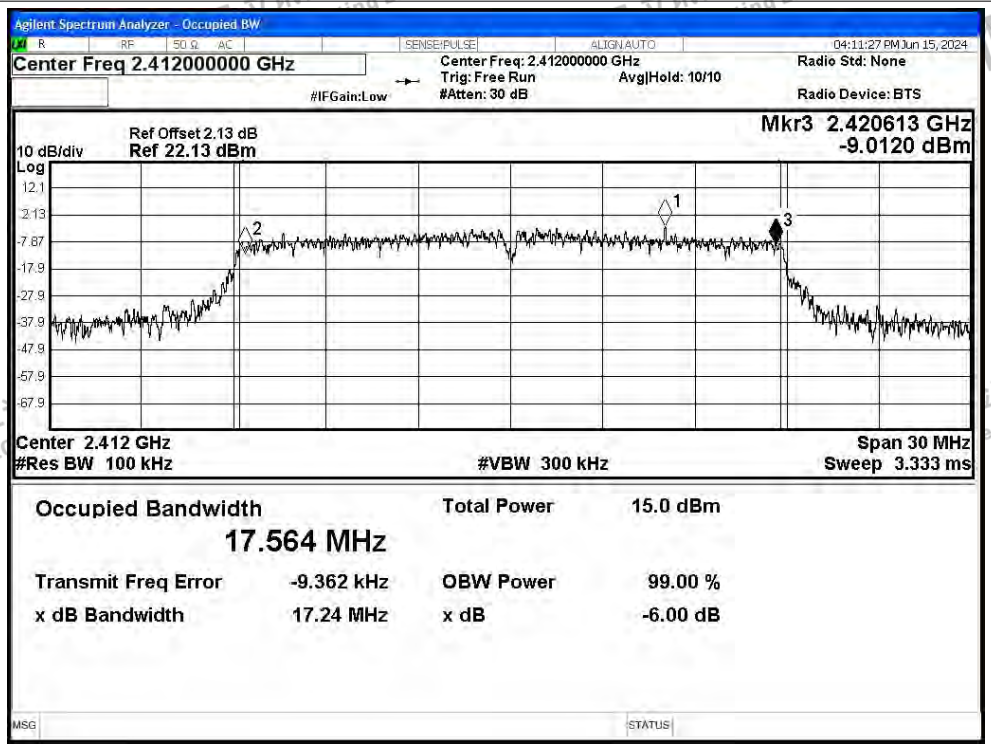
-6dB Bandwidth NVNT g 2437MHz Ant3



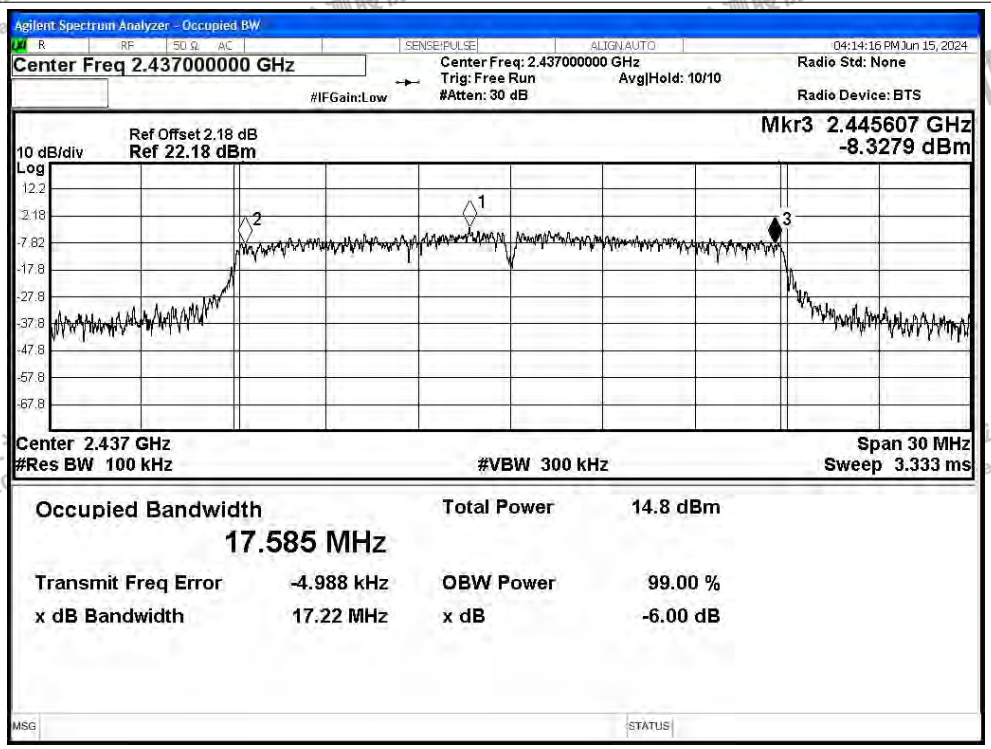
-6dB Bandwidth NVNT g 2462MHz Ant3



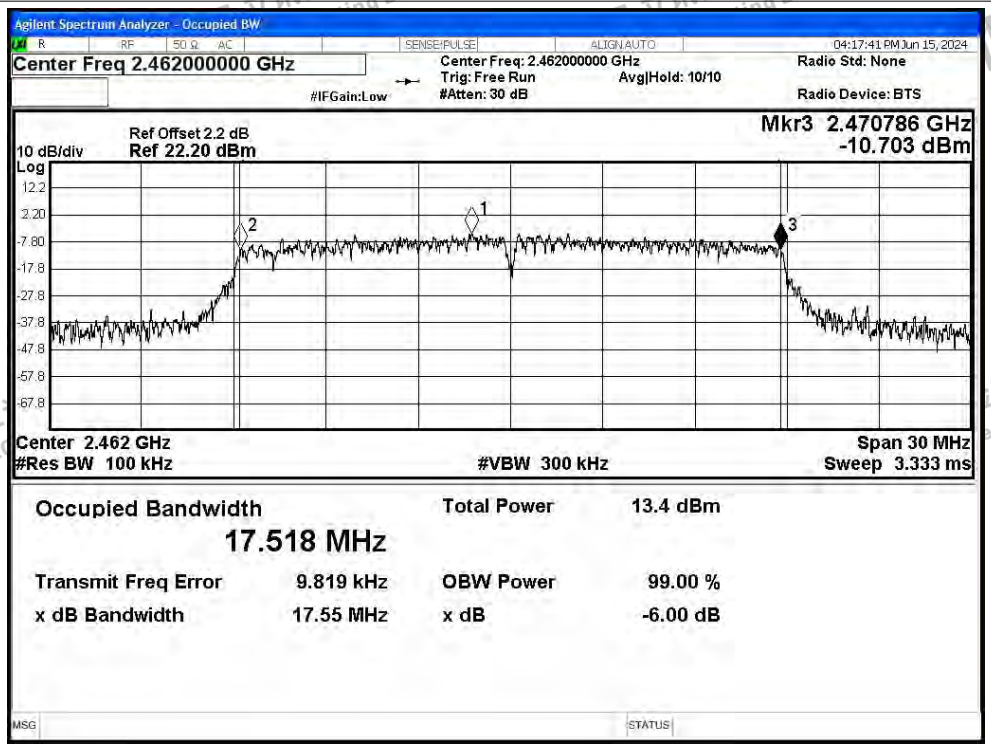
-6dB Bandwidth NVNT n20 2412MHz Ant3



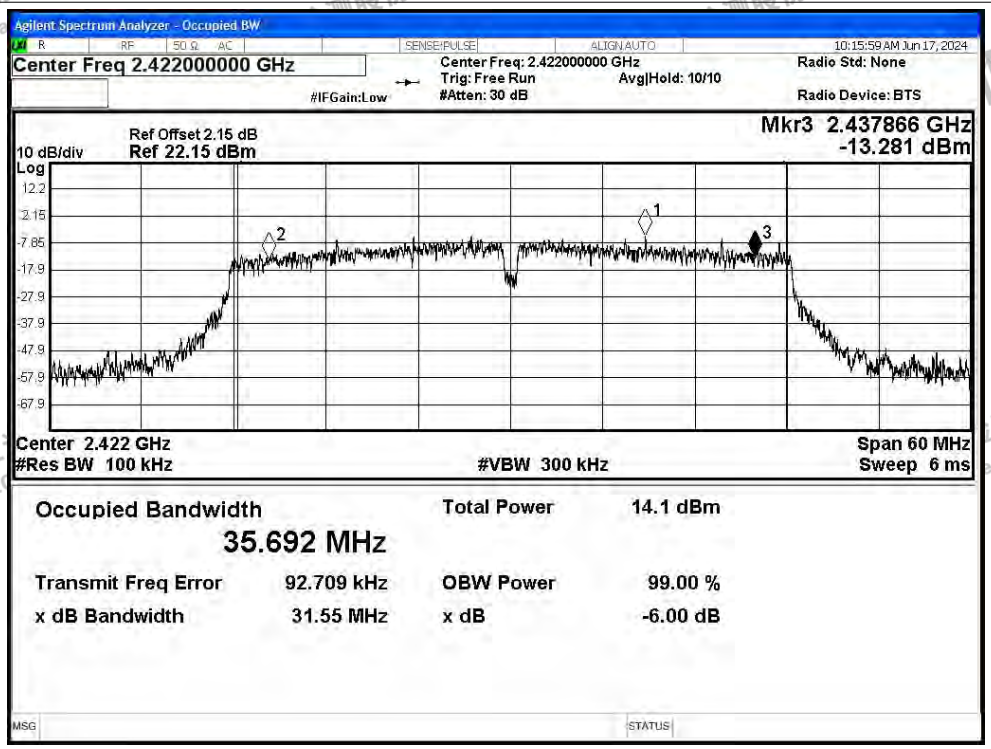
-6dB Bandwidth NVNT n20 2437MHz Ant3



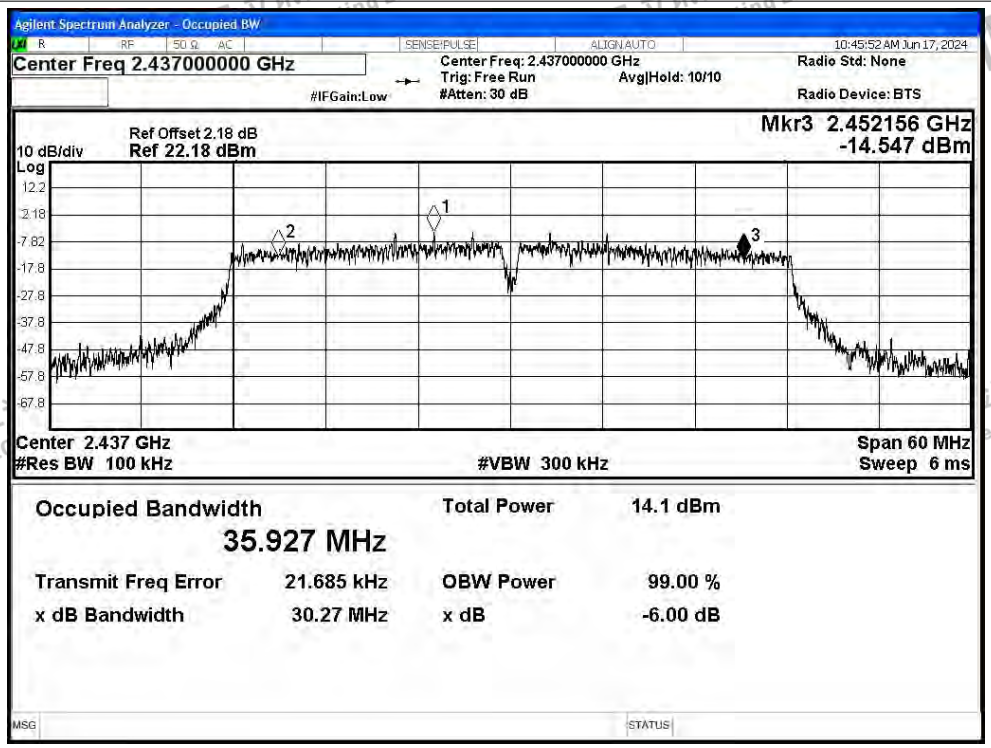
-6dB Bandwidth NVNT n20 2462MHz Ant3



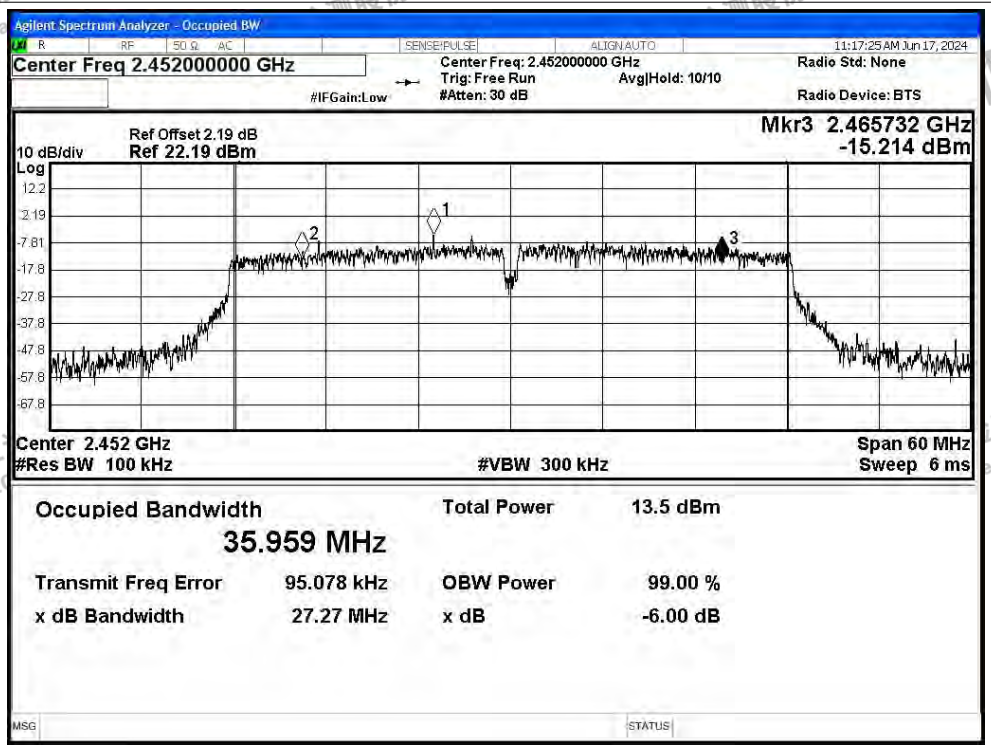
-6dB Bandwidth NVNT n40 2422MHz Ant3



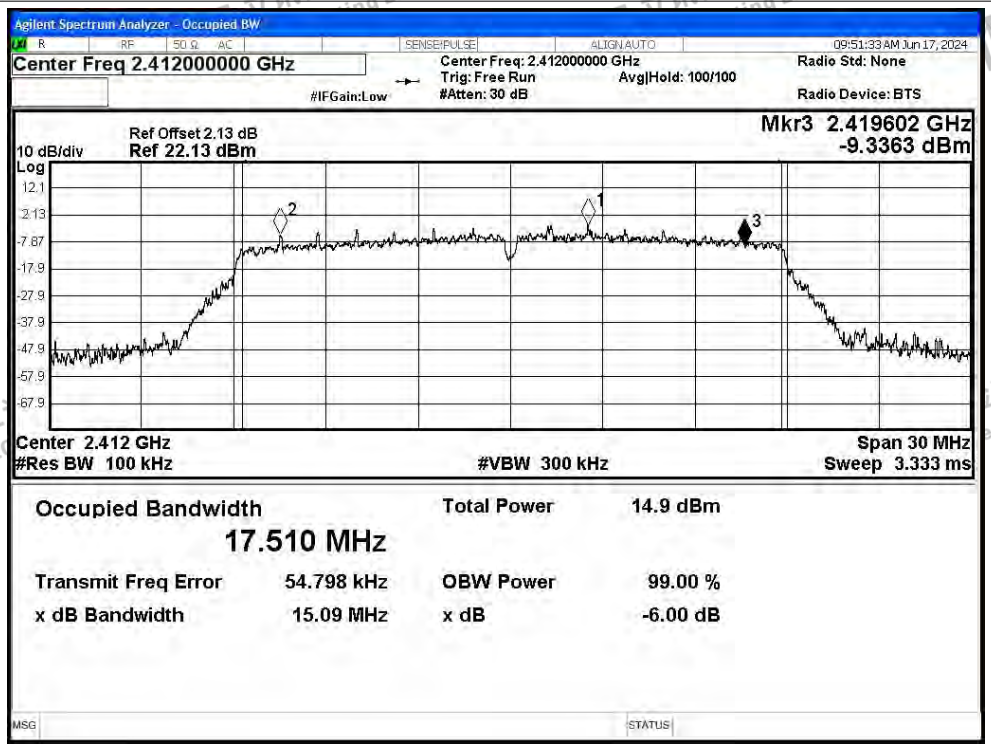
-6dB Bandwidth NVNT n40 2437MHz Ant3



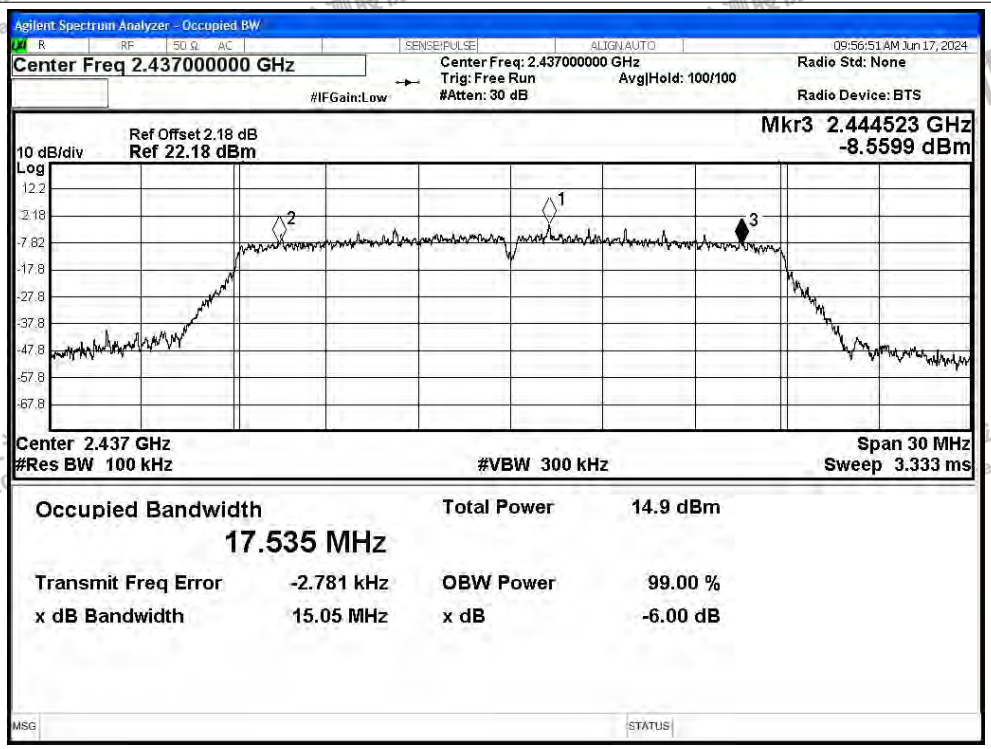
-6dB Bandwidth NVNT n40 2452MHz Ant3



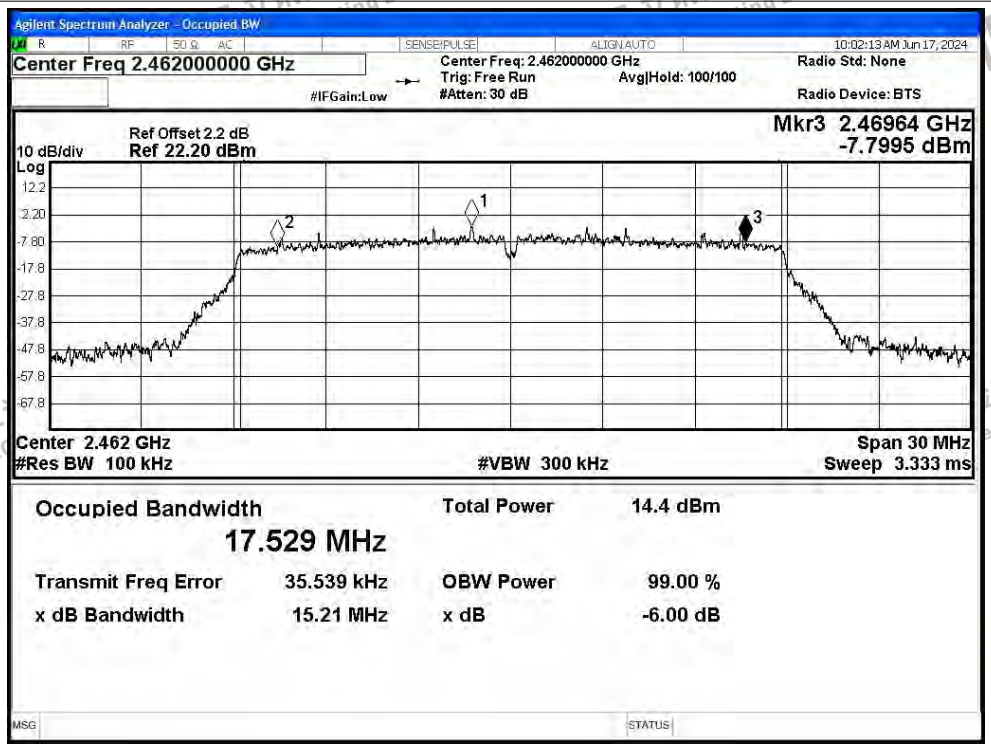
-6dB Bandwidth NVNT ax20 2412MHz Ant3



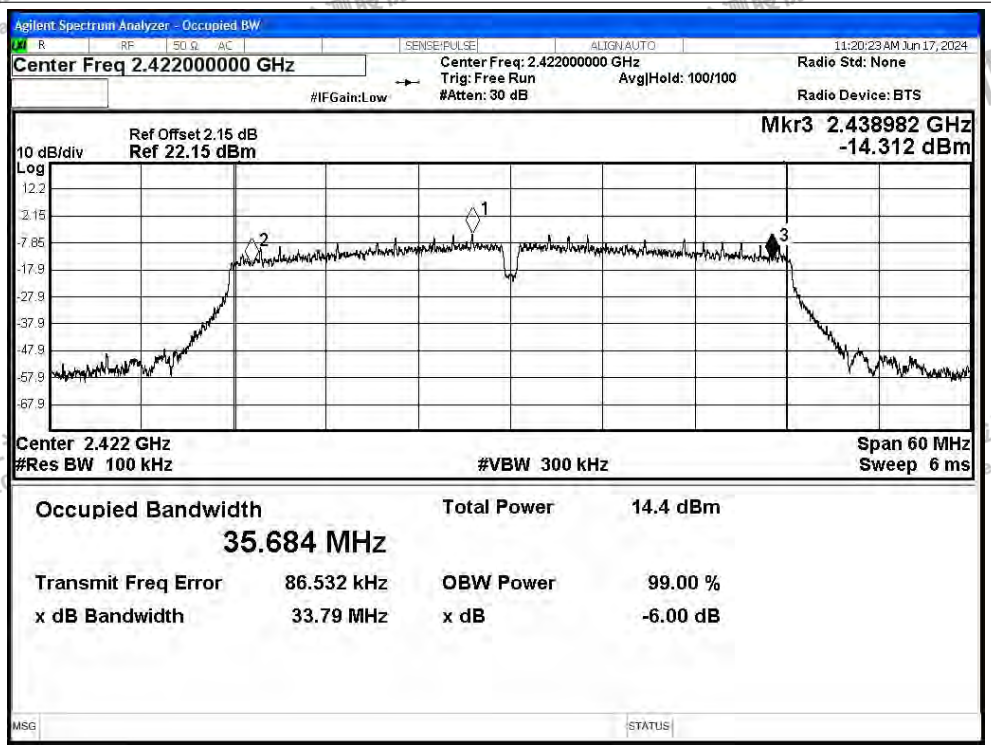
-6dB Bandwidth NVNT ax20 2437MHz Ant3



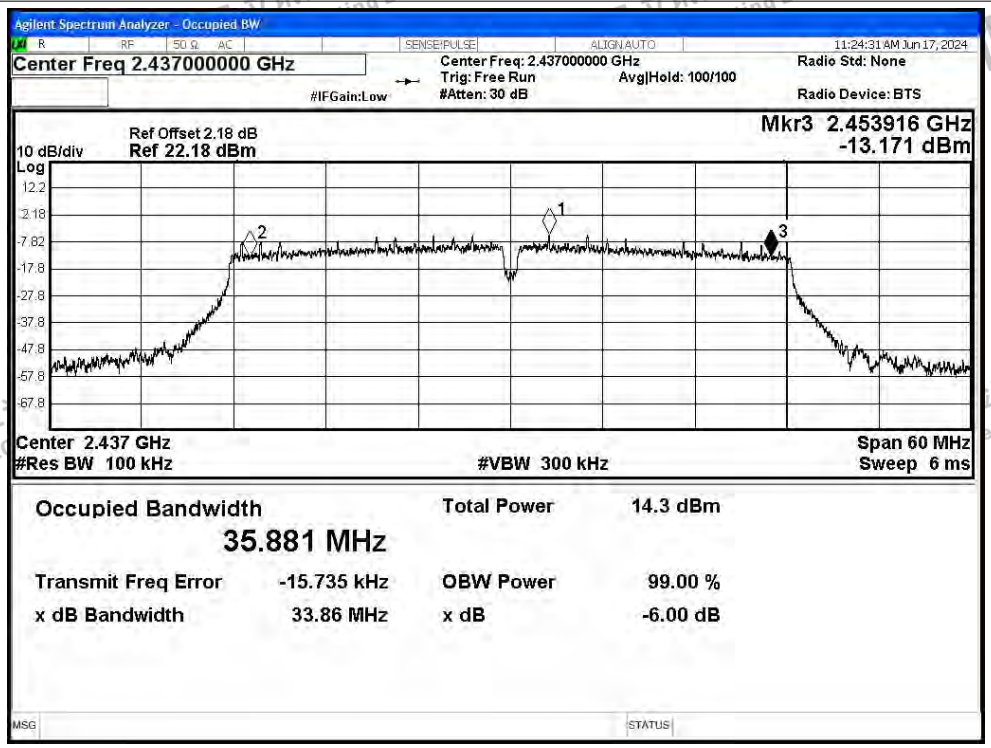
-6dB Bandwidth NVNT ax20 2462MHz Ant3



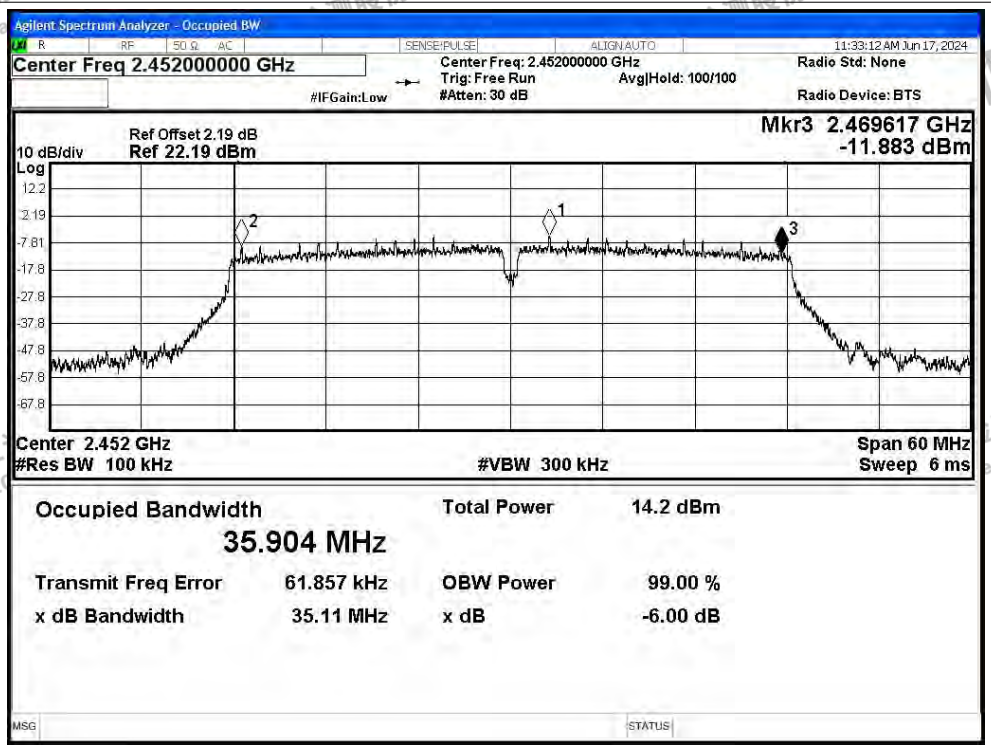
-6dB Bandwidth NVNT ax40 2422MHz Ant3



-6dB Bandwidth NVNT ax40 2437MHz Ant3



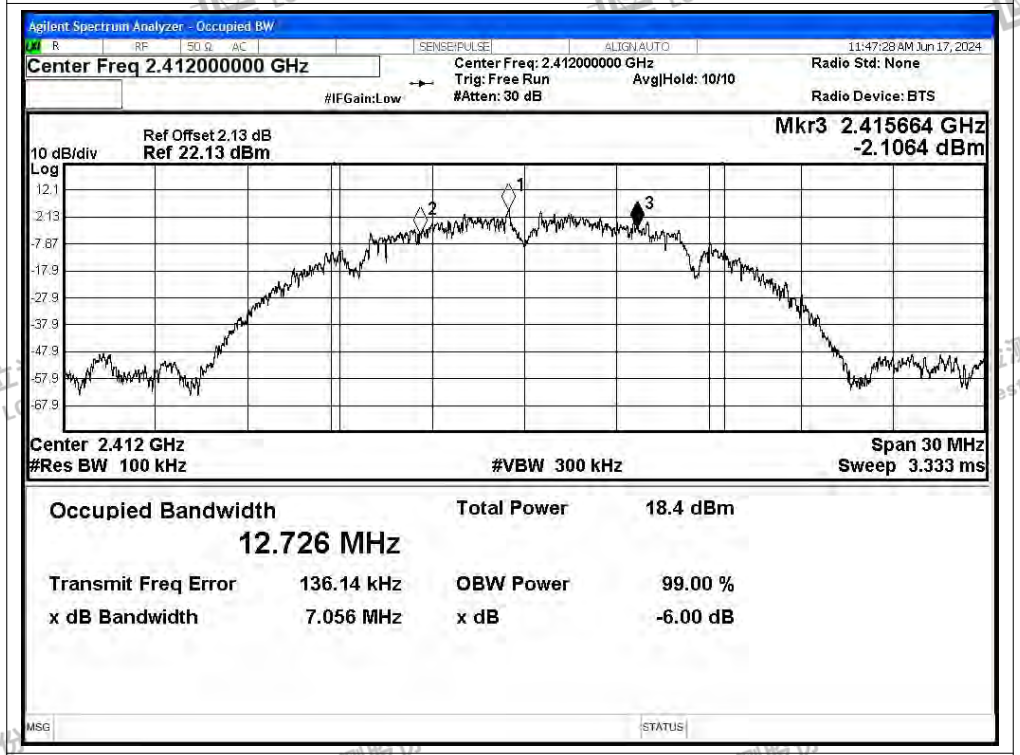
-6dB Bandwidth NVNT ax40 2452MHz Ant3



Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant4	7.056	>=0.5	Pass
NVNT	b	2437	Ant4	7.57	>=0.5	Pass
NVNT	b	2462	Ant4	8.068	>=0.5	Pass
NVNT	g	2412	Ant4	14.413	>=0.5	Pass
NVNT	g	2437	Ant4	16.322	>=0.5	Pass
NVNT	g	2462	Ant4	16.406	>=0.5	Pass
NVNT	n20	2412	Ant4	16.934	>=0.5	Pass
NVNT	n20	2437	Ant4	16.865	>=0.5	Pass
NVNT	n20	2462	Ant4	16.71	>=0.5	Pass
NVNT	n40	2422	Ant4	31.262	>=0.5	Pass
NVNT	n40	2437	Ant4	28.79	>=0.5	Pass
NVNT	n40	2452	Ant4	35.288	>=0.5	Pass
NVNT	ax20	2412	Ant4	16.088	>=0.5	Pass
NVNT	ax20	2437	Ant4	15.096	>=0.5	Pass
NVNT	ax20	2462	Ant4	15.988	>=0.5	Pass
NVNT	ax40	2422	Ant4	35.053	>=0.5	Pass
NVNT	ax40	2437	Ant4	33.866	>=0.5	Pass
NVNT	ax40	2452	Ant4	35.112	>=0.5	Pass

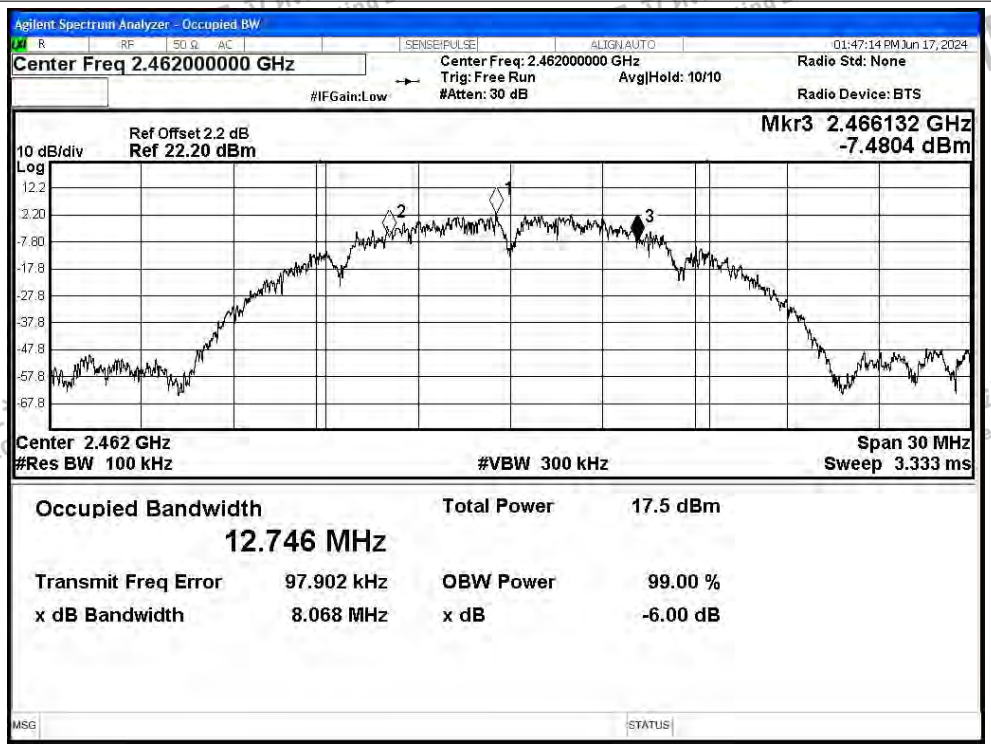
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant4

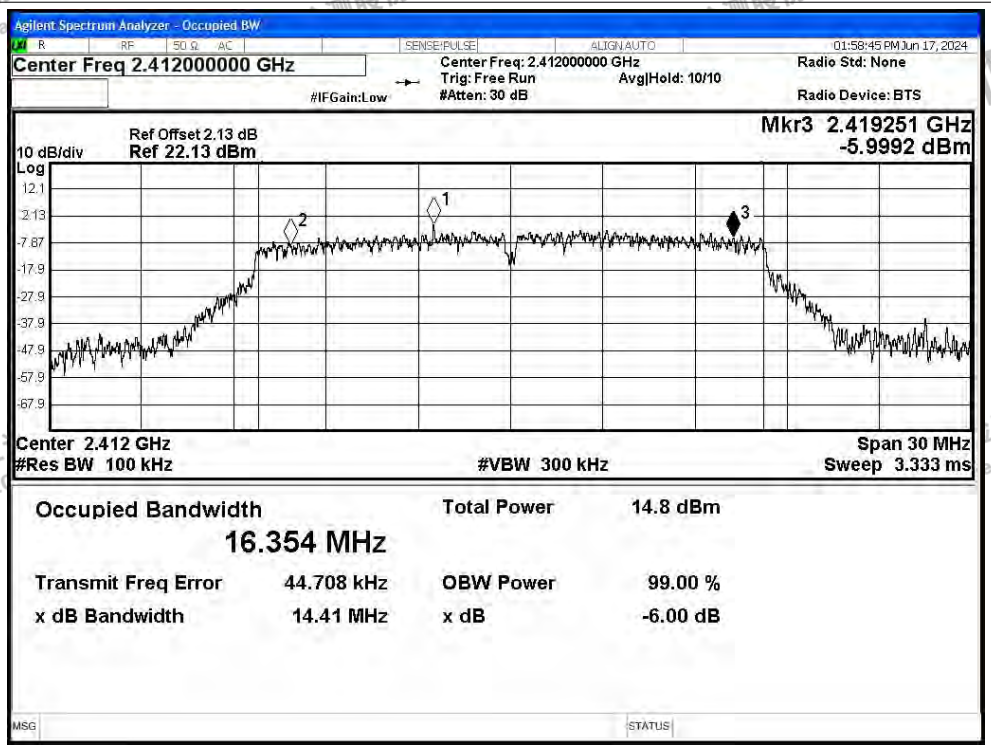


-6dB Bandwidth NVNT b 2437MHz Ant4

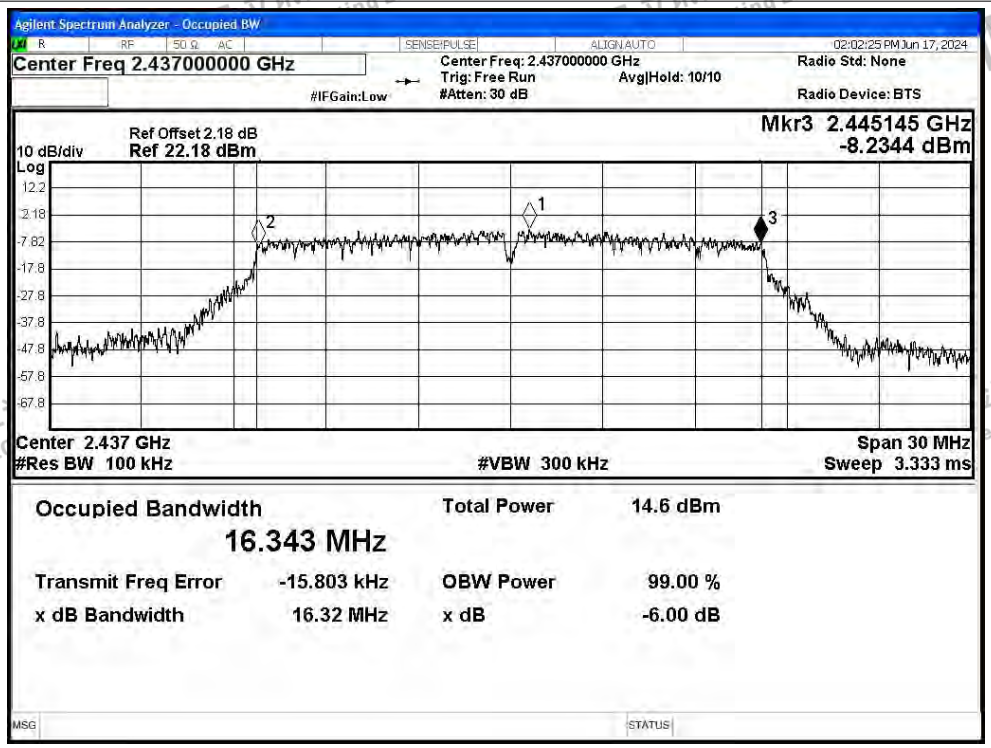
-6dB Bandwidth NVNT b 2462MHz Ant4



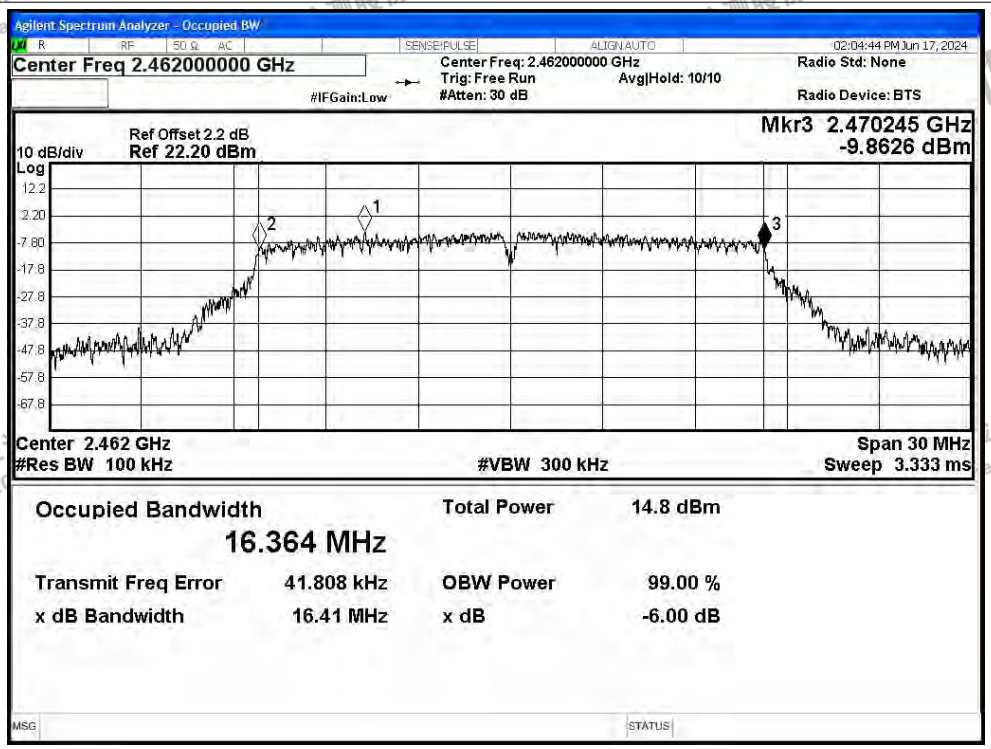
-6dB Bandwidth NVNT g 2412MHz Ant4



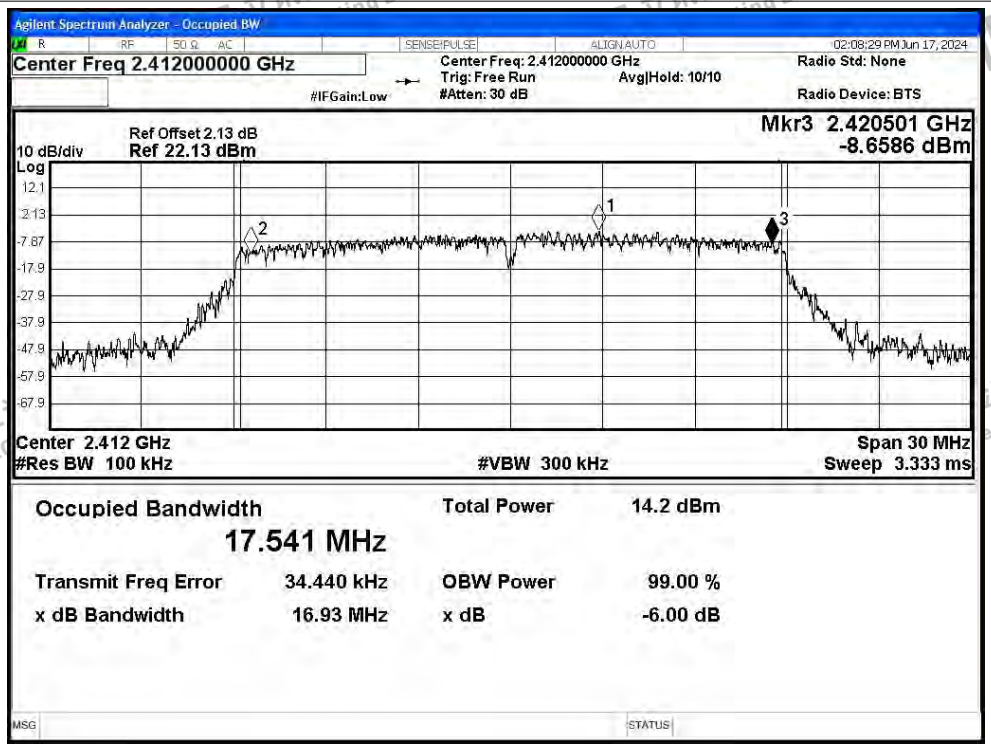
-6dB Bandwidth NVNT g 2437MHz Ant4



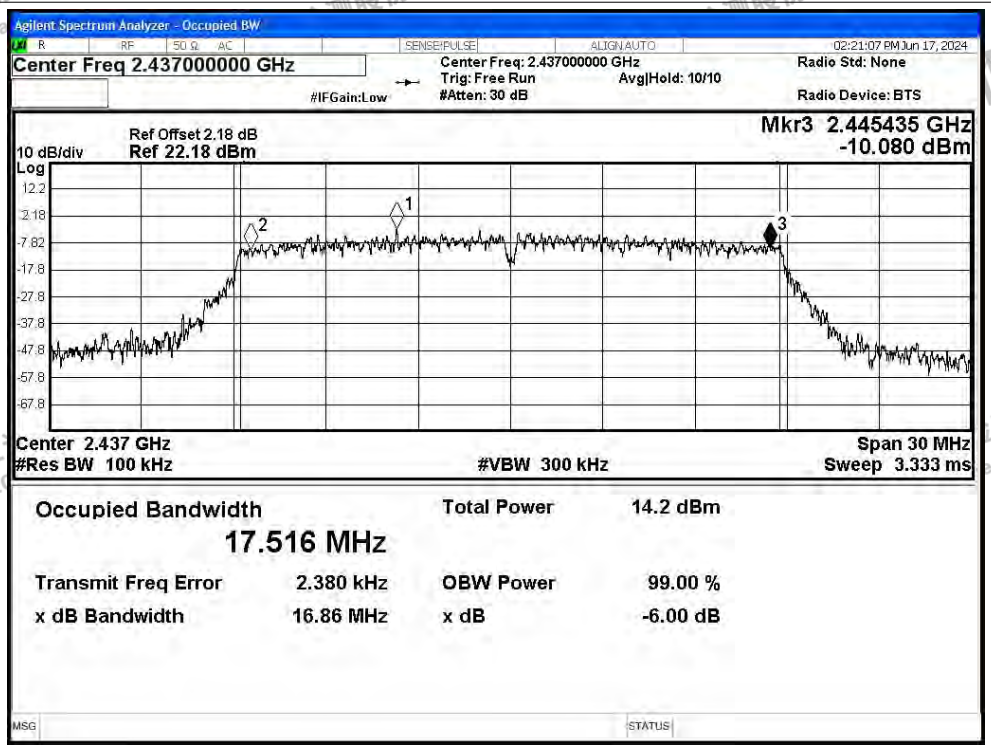
-6dB Bandwidth NVNT g 2462MHz Ant4



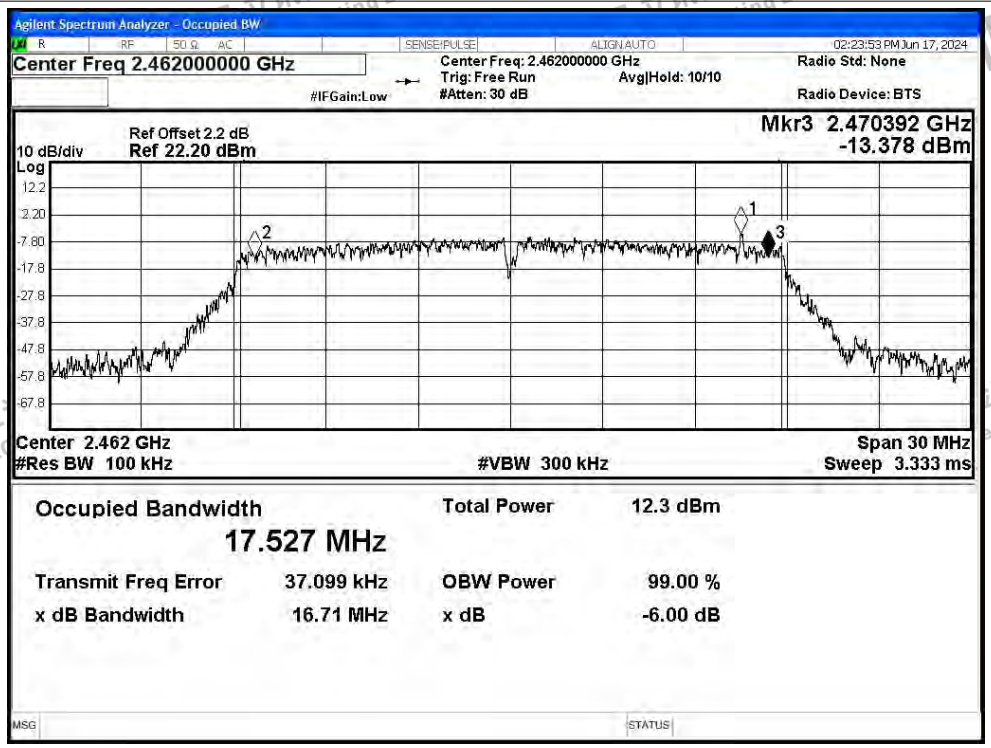
-6dB Bandwidth NVNT n20 2412MHz Ant4



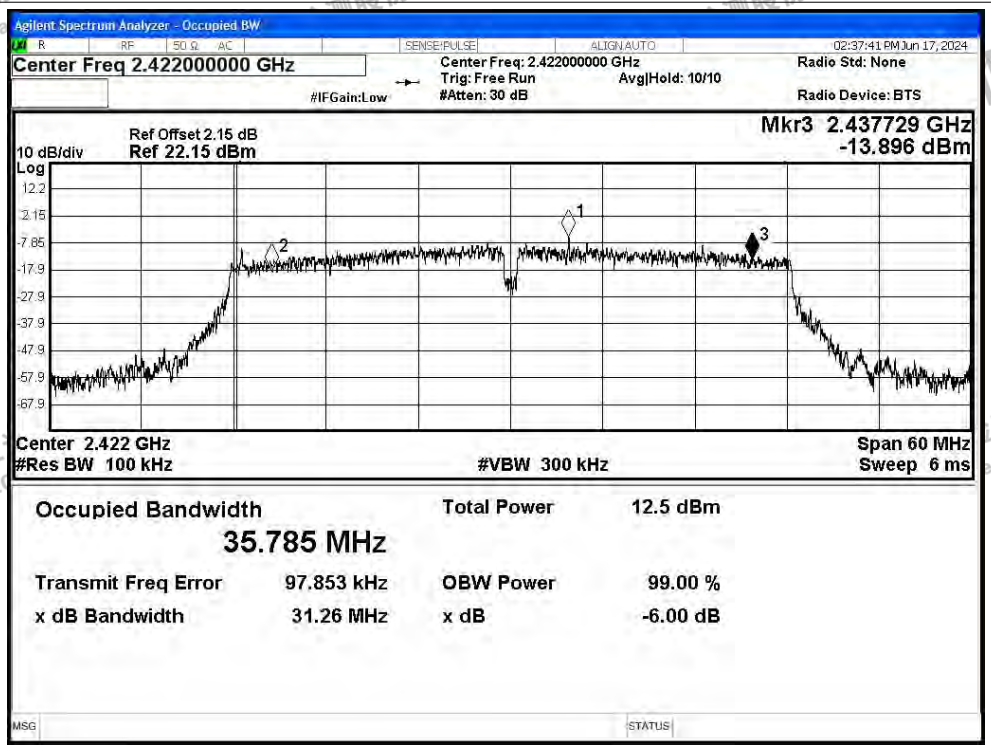
-6dB Bandwidth NVNT n20 2437MHz Ant4



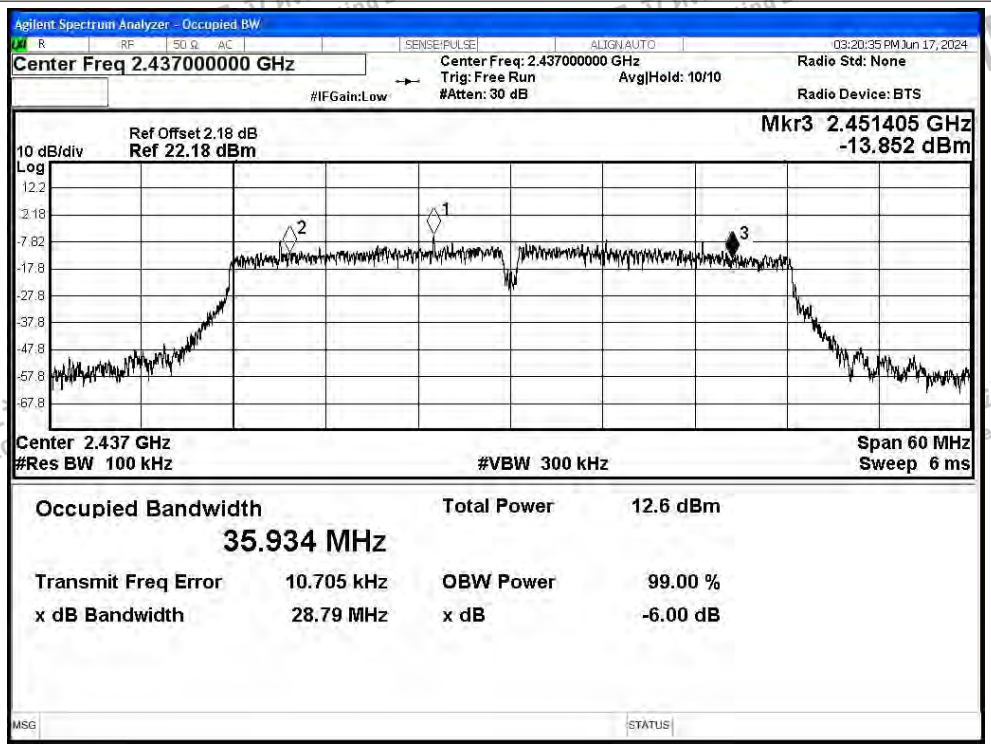
-6dB Bandwidth NVNT n20 2462MHz Ant4



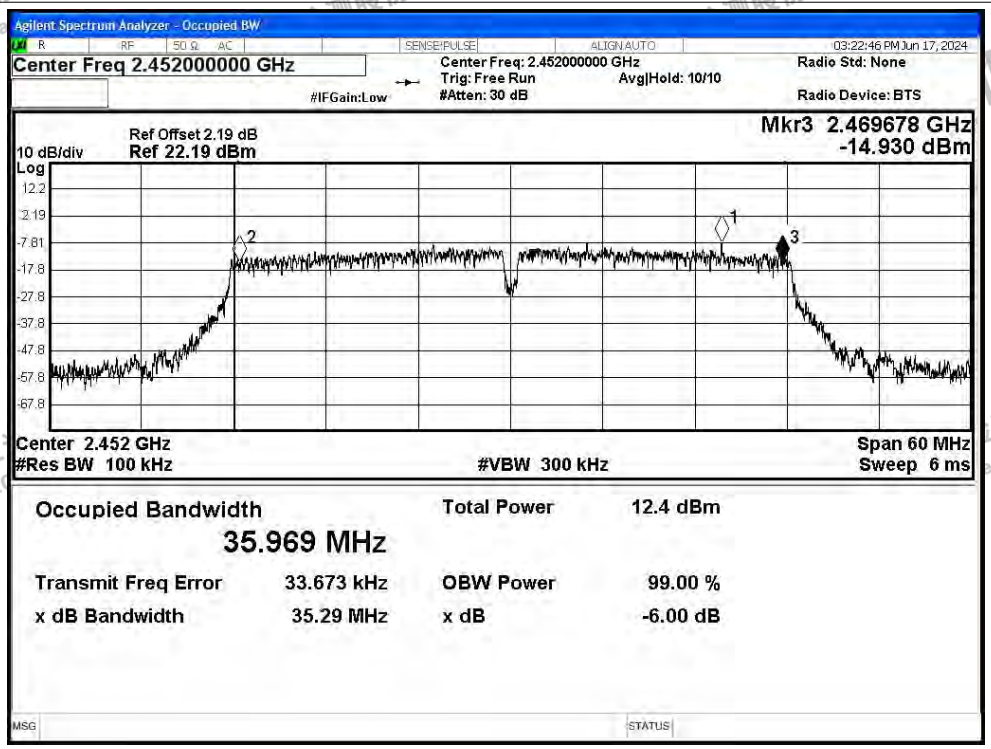
-6dB Bandwidth NVNT n40 2422MHz Ant4



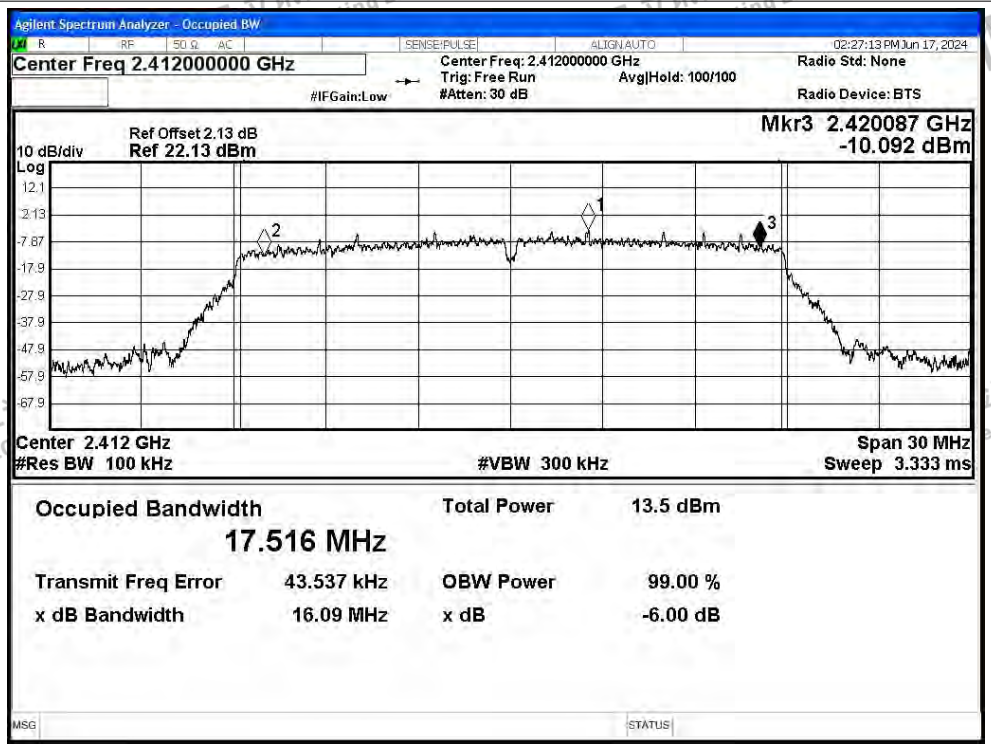
-6dB Bandwidth NVNT n40 2437MHz Ant4



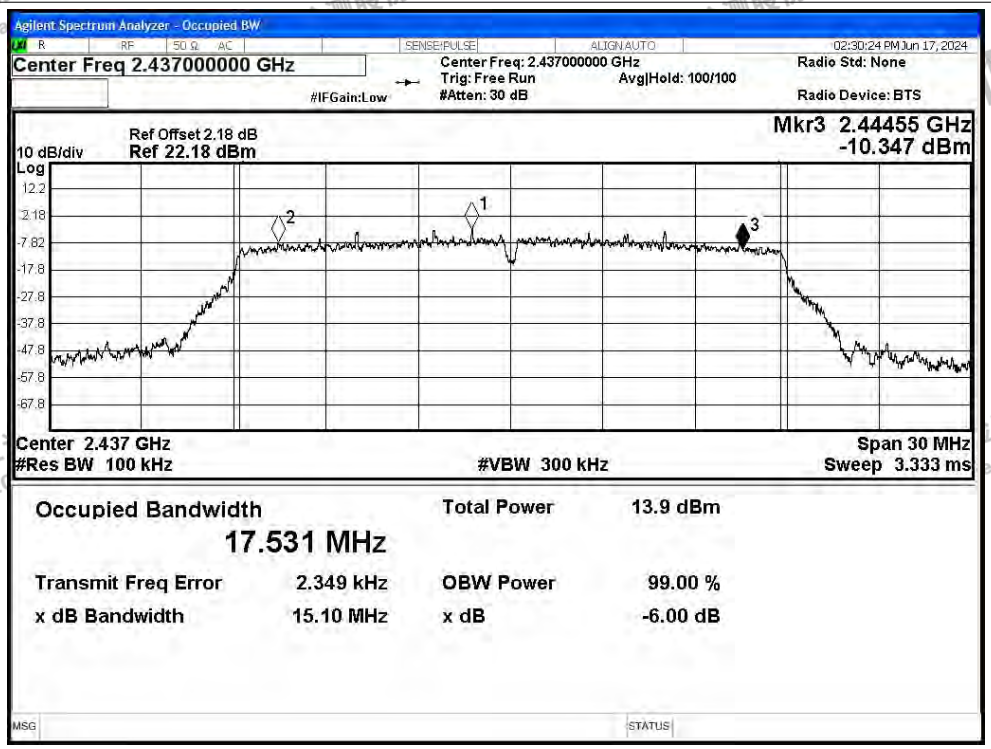
-6dB Bandwidth NVNT n40 2452MHz Ant4



-6dB Bandwidth NVNT ax20 2412MHz Ant4



-6dB Bandwidth NVNT ax20 2437MHz Ant4



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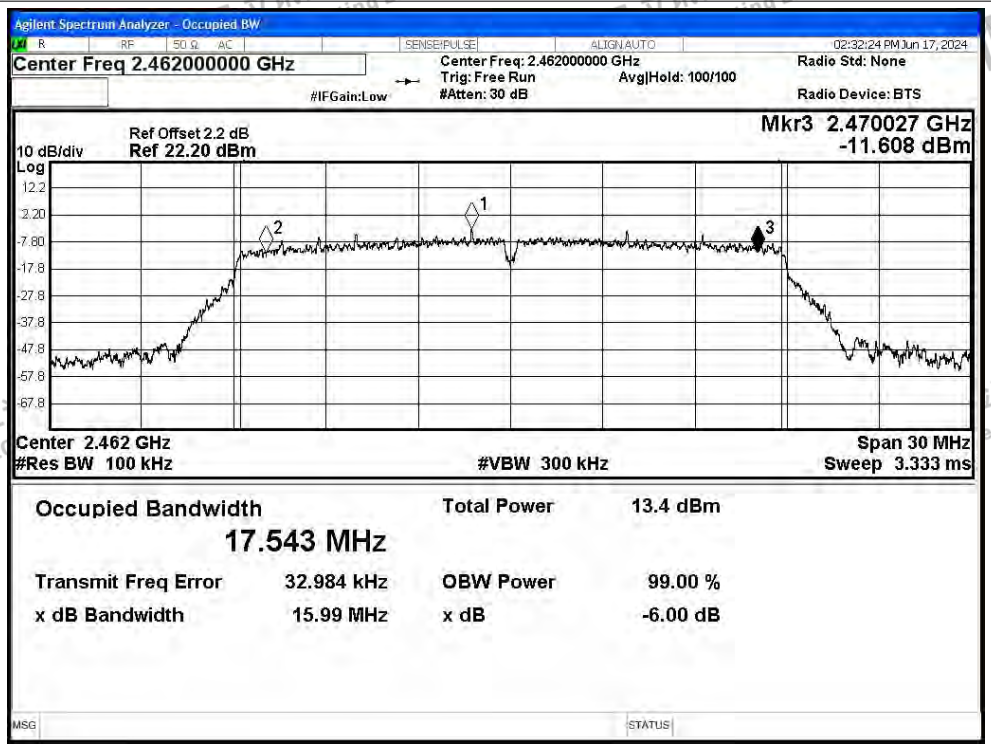
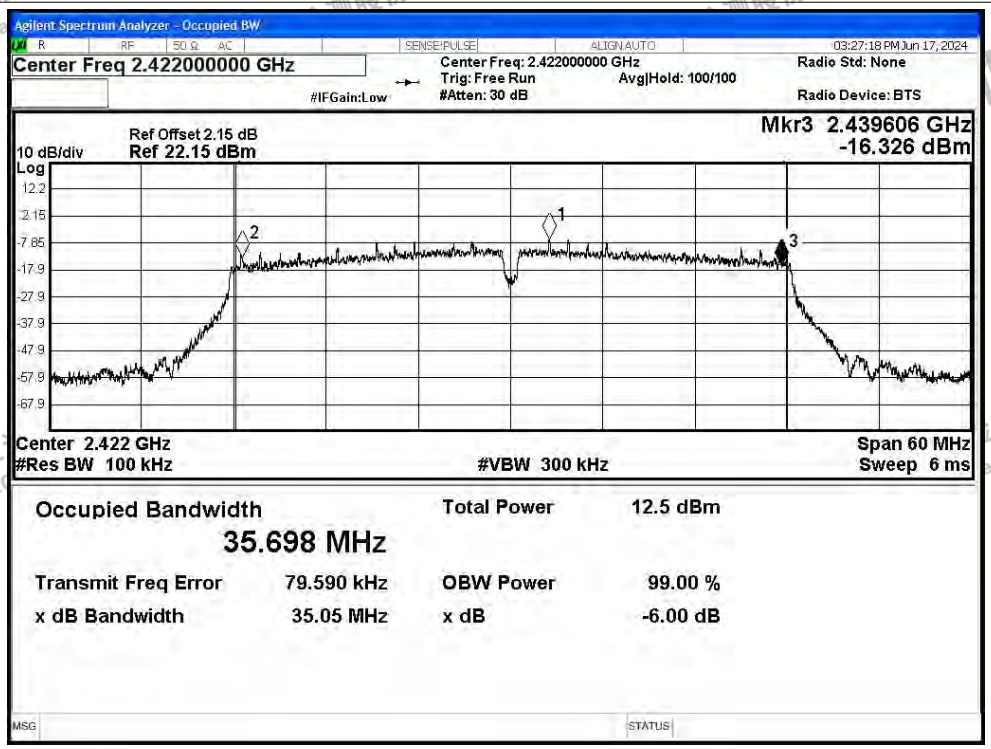
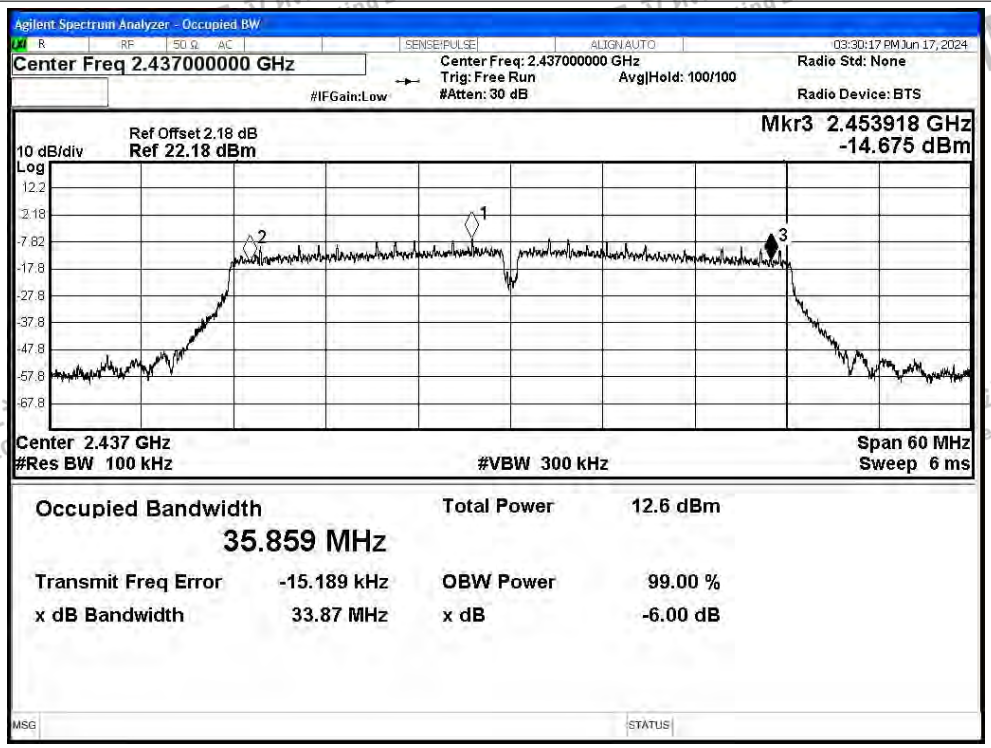


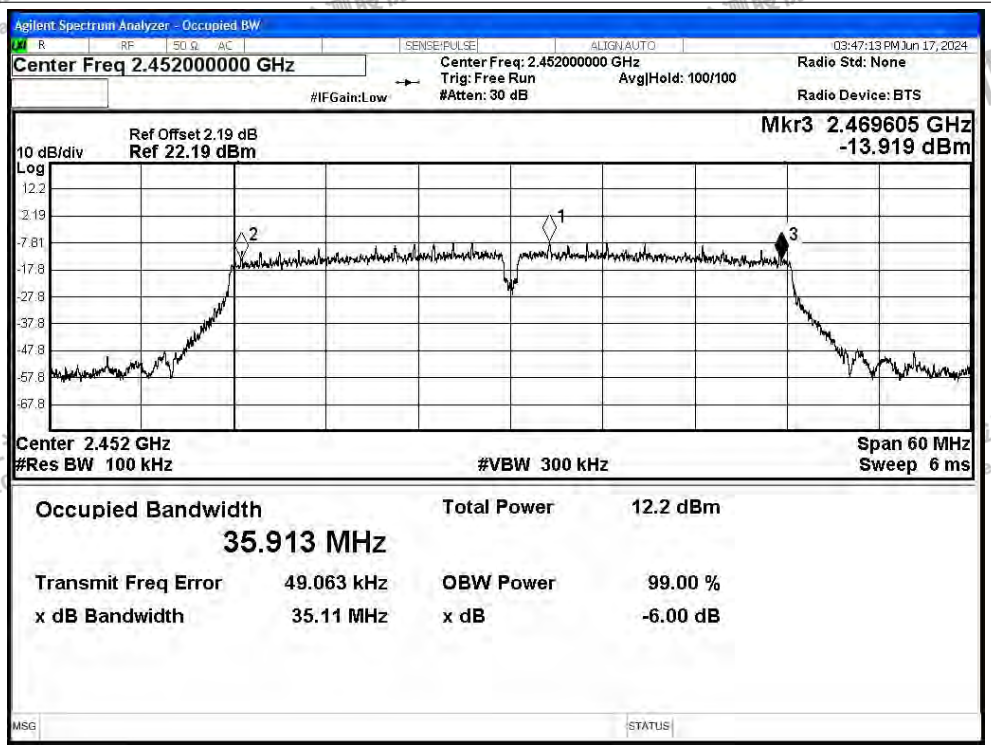
-6dB Bandwidth NVNT ax40 2422MHz Ant4



-6dB Bandwidth NVNT ax40 2437MHz Ant4



-6dB Bandwidth NVNT ax40 2452MHz Ant4



C.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant2	15.55	30	Pass
NVNT	b	2437	Ant2	15.61	30	Pass
NVNT	b	2462	Ant2	15.58	30	Pass
NVNT	g	2412	Ant2	14.81	30	Pass
NVNT	g	2437	Ant2	14.09	30	Pass
NVNT	g	2462	Ant2	14.73	30	Pass
NVNT	n20	2412	Ant2	13.45	30	Pass
NVNT	n20	2437	Ant2	13.76	30	Pass
NVNT	n20	2462	Ant2	13.74	30	Pass
NVNT	n40	2422	Ant2	12.83	30	Pass
NVNT	n40	2437	Ant2	12.26	30	Pass
NVNT	n40	2452	Ant2	12.55	30	Pass
NVNT	ax20	2412	Ant2	13.3	30	Pass
NVNT	ax20	2437	Ant2	13.44	30	Pass
NVNT	ax20	2462	Ant2	13.78	30	Pass
NVNT	ax40	2422	Ant2	12.89	30	Pass
NVNT	ax40	2437	Ant2	12.31	30	Pass
NVNT	ax40	2452	Ant2	12.87	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant3	15.53	30	Pass
NVNT	b	2437	Ant3	15.7	30	Pass
NVNT	b	2462	Ant3	15.13	30	Pass
NVNT	g	2412	Ant3	14.79	30	Pass
NVNT	g	2437	Ant3	14.64	30	Pass
NVNT	g	2462	Ant3	14.14	30	Pass
NVNT	n20	2412	Ant3	13.6	30	Pass
NVNT	n20	2437	Ant3	13.02	30	Pass
NVNT	n20	2462	Ant3	13.82	30	Pass
NVNT	n40	2422	Ant3	12.52	30	Pass
NVNT	n40	2437	Ant3	12.67	30	Pass
NVNT	n40	2452	Ant3	12.1	30	Pass
NVNT	ax20	2412	Ant3	13.5	30	Pass
NVNT	ax20	2437	Ant3	13.55	30	Pass
NVNT	ax20	2462	Ant3	13.05	30	Pass
NVNT	ax40	2422	Ant3	12.7	30	Pass
NVNT	ax40	2437	Ant3	12.84	30	Pass
NVNT	ax40	2452	Ant3	12.69	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant4	14.85	30	Pass
NVNT	b	2437	Ant4	14.38	30	Pass
NVNT	b	2462	Ant4	13.97	30	Pass
NVNT	g	2412	Ant4	13.57	30	Pass
NVNT	g	2437	Ant4	13.49	30	Pass
NVNT	g	2462	Ant4	13.66	30	Pass
NVNT	n20	2412	Ant4	12.87	30	Pass
NVNT	n20	2437	Ant4	12.8	30	Pass
NVNT	n20	2462	Ant4	12.7	30	Pass
NVNT	n40	2422	Ant4	11.13	30	Pass
NVNT	n40	2437	Ant4	11.31	30	Pass
NVNT	n40	2452	Ant4	10.88	30	Pass
NVNT	ax20	2412	Ant4	12.17	30	Pass
NVNT	ax20	2437	Ant4	12.52	30	Pass
NVNT	ax20	2462	Ant4	12.16	30	Pass
NVNT	ax40	2422	Ant4	10.83	30	Pass
NVNT	ax40	2437	Ant4	10.94	30	Pass
NVNT	ax40	2452	Ant4	10.61	30	Pass

Ant2+Ant3+Ant4:

Condition	Mode	Frequency (MHz)	Total Power (dBm)				Limit (dBm)	Verdict
			Ant2	Ant3	Ant4	Ant2+Ant3+Ant4		
NVNT	n20	2412	13.45	13.6	12.87	18.09	30	Pass
NVNT	n20	2437	13.76	13.02	12.8	17.98	30	Pass
NVNT	n20	2462	13.74	13.82	12.7	18.22	30	Pass
NVNT	n40	2422	12.83	12.52	11.13	16.99	30	Pass
NVNT	n40	2437	12.26	12.67	11.31	16.89	30	Pass
NVNT	n40	2452	12.55	12.1	10.88	16.67	30	Pass
NVNT	ax20	2412	13.3	13.5	12.17	17.80	30	Pass
NVNT	ax20	2437	13.44	13.55	12.52	17.97	30	Pass
NVNT	ax20	2462	13.78	13.05	12.16	17.82	30	Pass
NVNT	ax40	2422	12.89	12.7	10.83	17.01	30	Pass
NVNT	ax40	2437	12.31	12.84	10.94	16.87	30	Pass
NVNT	ax40	2452	12.87	12.69	10.61	16.94	30	Pass

C.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-5.84	5.8	Pass
NVNT	b	2437	Ant2	-7.55	5.8	Pass
NVNT	b	2462	Ant2	-8.62	5.8	Pass
NVNT	g	2412	Ant2	-13.96	5.8	Pass
NVNT	g	2437	Ant2	-13.14	5.8	Pass
NVNT	g	2462	Ant2	-11.71	5.8	Pass
NVNT	n20	2412	Ant2	-11.39	5.8	Pass
NVNT	n20	2437	Ant2	-13.52	5.8	Pass
NVNT	n20	2462	Ant2	-15.22	5.8	Pass
NVNT	n40	2422	Ant2	-16.81	5.8	Pass
NVNT	n40	2437	Ant2	-18.95	5.8	Pass
NVNT	n40	2452	Ant2	-18.75	5.8	Pass
NVNT	ax20	2412	Ant2	-15.89	5.8	Pass
NVNT	ax20	2437	Ant2	-14.87	5.8	Pass
NVNT	ax20	2462	Ant2	-15.25	5.8	Pass
NVNT	ax40	2422	Ant2	-19.34	5.8	Pass
NVNT	ax40	2437	Ant2	-19.77	5.8	Pass
NVNT	ax40	2452	Ant2	-19.16	5.8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant3	-7.89	5.8	Pass
NVNT	b	2437	Ant3	-8.92	5.8	Pass
NVNT	b	2462	Ant3	-9.06	5.8	Pass
NVNT	g	2412	Ant3	-12.83	5.8	Pass
NVNT	g	2437	Ant3	-12.07	5.8	Pass
NVNT	g	2462	Ant3	-12.12	5.8	Pass
NVNT	n20	2412	Ant3	-14.13	5.8	Pass
NVNT	n20	2437	Ant3	-13.53	5.8	Pass
NVNT	n20	2462	Ant3	-15.9	5.8	Pass
NVNT	n40	2422	Ant3	-17.57	5.8	Pass
NVNT	n40	2437	Ant3	-16.9	5.8	Pass
NVNT	n40	2452	Ant3	-18.91	5.8	Pass
NVNT	ax20	2412	Ant3	-15.45	5.8	Pass
NVNT	ax20	2437	Ant3	-15.72	5.8	Pass
NVNT	ax20	2462	Ant3	-15.47	5.8	Pass
NVNT	ax40	2422	Ant3	-17.98	5.8	Pass
NVNT	ax40	2437	Ant3	-19.01	5.8	Pass
NVNT	ax40	2452	Ant3	-19.54	5.8	Pass

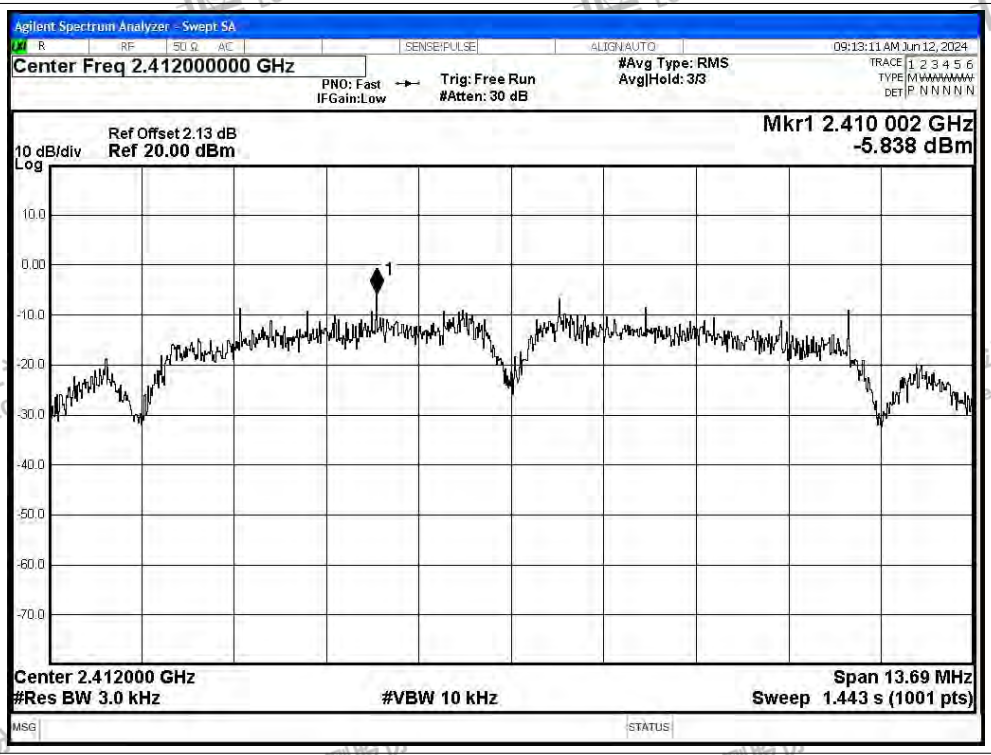
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant4	-8.86	5.8	Pass
NVNT	b	2437	Ant4	-8.57	5.8	Pass
NVNT	b	2462	Ant4	-10.14	5.8	Pass
NVNT	g	2412	Ant4	-14.35	5.8	Pass
NVNT	g	2437	Ant4	-14.31	5.8	Pass
NVNT	g	2462	Ant4	-13.85	5.8	Pass
NVNT	n20	2412	Ant4	-13.62	5.8	Pass
NVNT	n20	2437	Ant4	-14.34	5.8	Pass
NVNT	n20	2462	Ant4	-17.3	5.8	Pass
NVNT	n40	2422	Ant4	-19.06	5.8	Pass
NVNT	n40	2437	Ant4	-18.66	5.8	Pass
NVNT	n40	2452	Ant4	-19.54	5.8	Pass
NVNT	ax20	2412	Ant4	-16.5	5.8	Pass
NVNT	ax20	2437	Ant4	-15.37	5.8	Pass
NVNT	ax20	2462	Ant4	-15.58	5.8	Pass
NVNT	ax40	2422	Ant4	-20.19	5.8	Pass
NVNT	ax40	2437	Ant4	-19.96	5.8	Pass
NVNT	ax40	2452	Ant4	-21.13	5.8	Pass

Ant2+Ant3+Ant4:

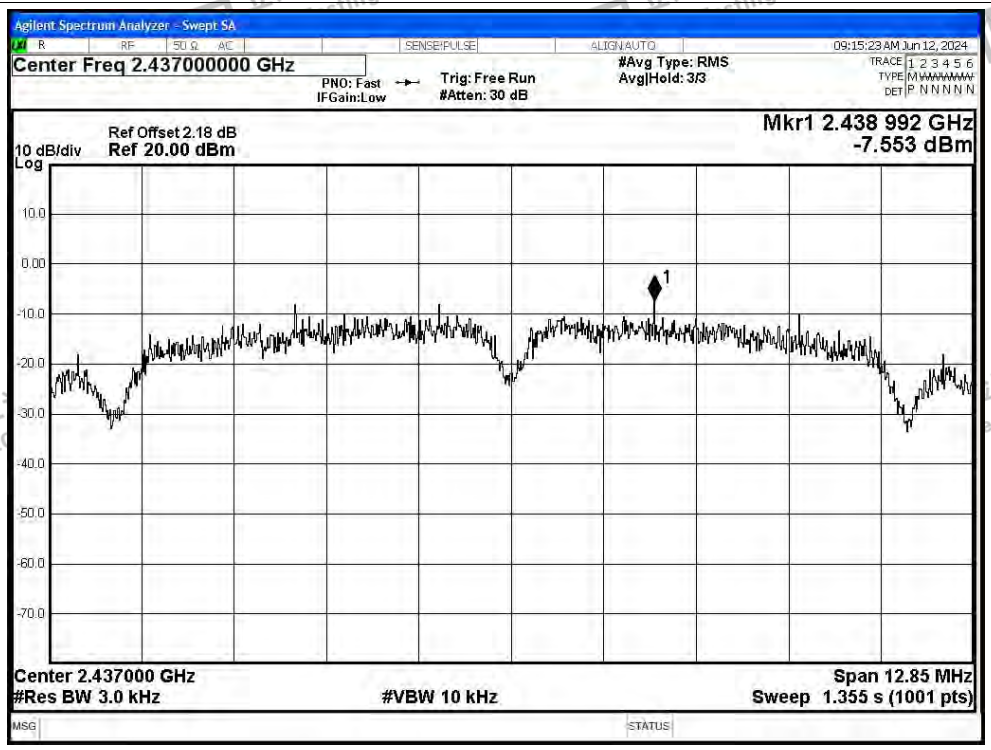
Condition	Mode	Frequency (MHz)	Total PSD (dBm/3kHz)				Limit (dBm)	Verdict
			Ant2	Ant3	Ant4	Ant2+Ant3+Ant4		
NVNT	n20	2412	-11.39	-14.13	-13.62	-8.11	5.8	Pass
NVNT	n20	2437	-13.52	-13.53	-14.34	-9.01	5.8	Pass
NVNT	n20	2462	-15.22	-15.9	-17.3	-11.29	5.8	Pass
NVNT	n40	2422	-16.81	-17.57	-19.06	-12.94	5.8	Pass
NVNT	n40	2437	-18.95	-16.9	-18.66	-13.30	5.8	Pass
NVNT	n40	2452	-18.75	-18.91	-19.54	-14.28	5.8	Pass
NVNT	ax20	2412	-15.89	-15.45	-16.5	-11.15	5.8	Pass
NVNT	ax20	2437	-14.87	-15.72	-15.37	-10.53	5.8	Pass
NVNT	ax20	2462	-15.25	-15.47	-15.58	-10.66	5.8	Pass
NVNT	ax40	2422	-19.34	-17.98	-20.19	-14.30	5.8	Pass
NVNT	ax40	2437	-19.77	-19.01	-19.96	-14.79	5.8	Pass
NVNT	ax40	2452	-19.16	-19.54	-21.13	-15.09	5.8	Pass

Test Graphs

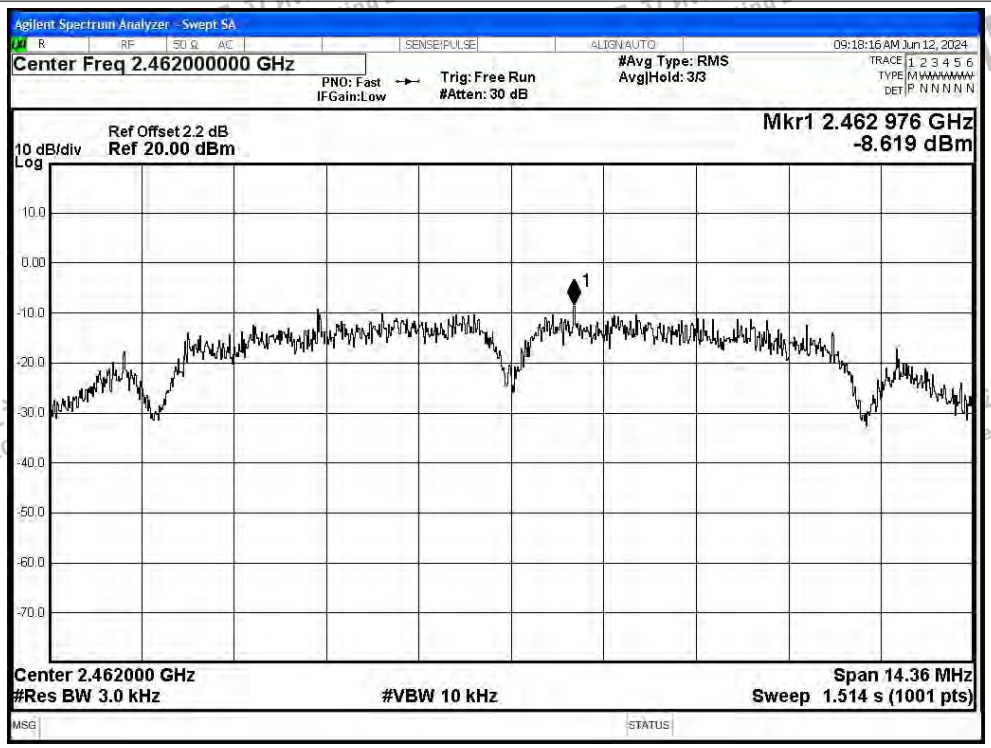
PSD NVNT b 2412MHz Ant2



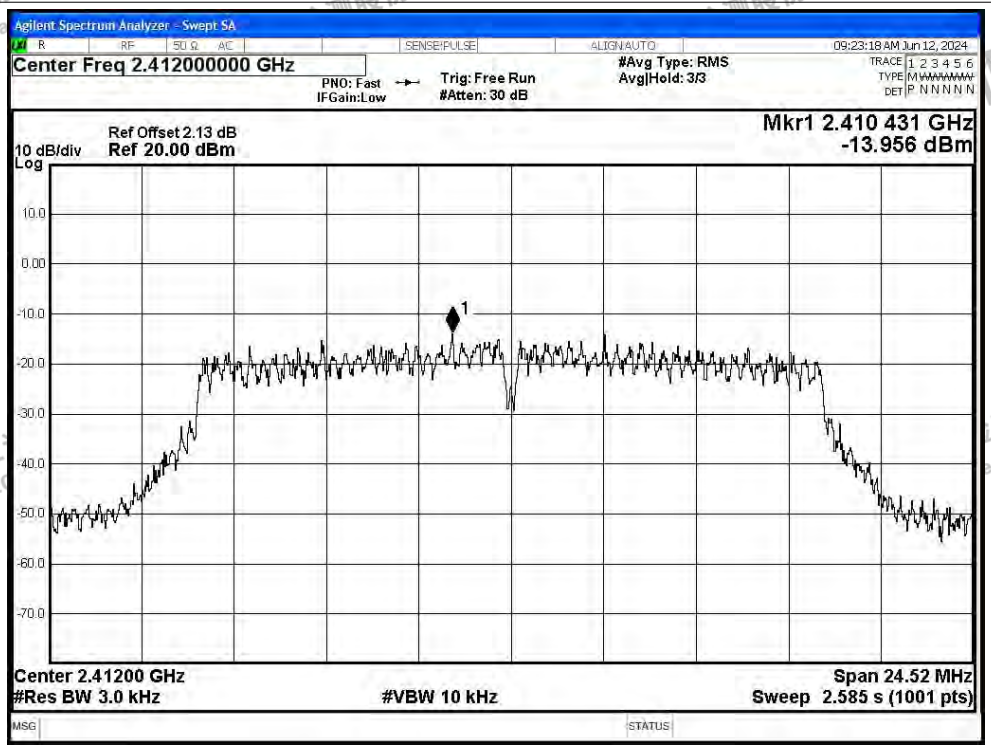
PSD NVNT b 2437MHz Ant2



PSD NVNT b 2462MHz Ant2



PSD NVNT g 2412MHz Ant2



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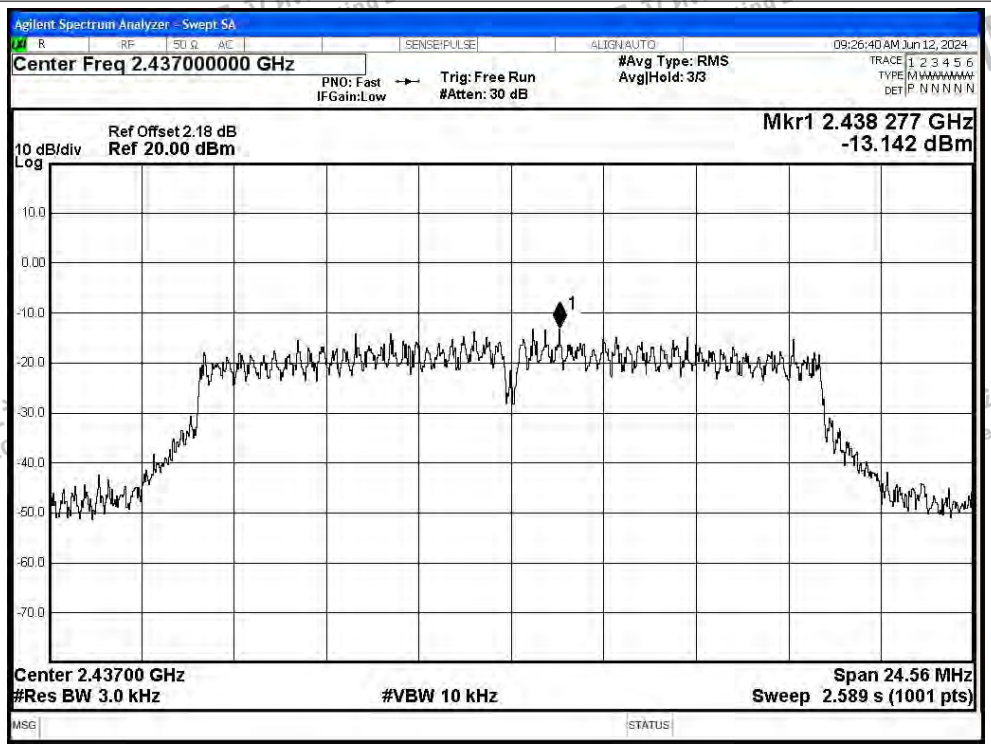

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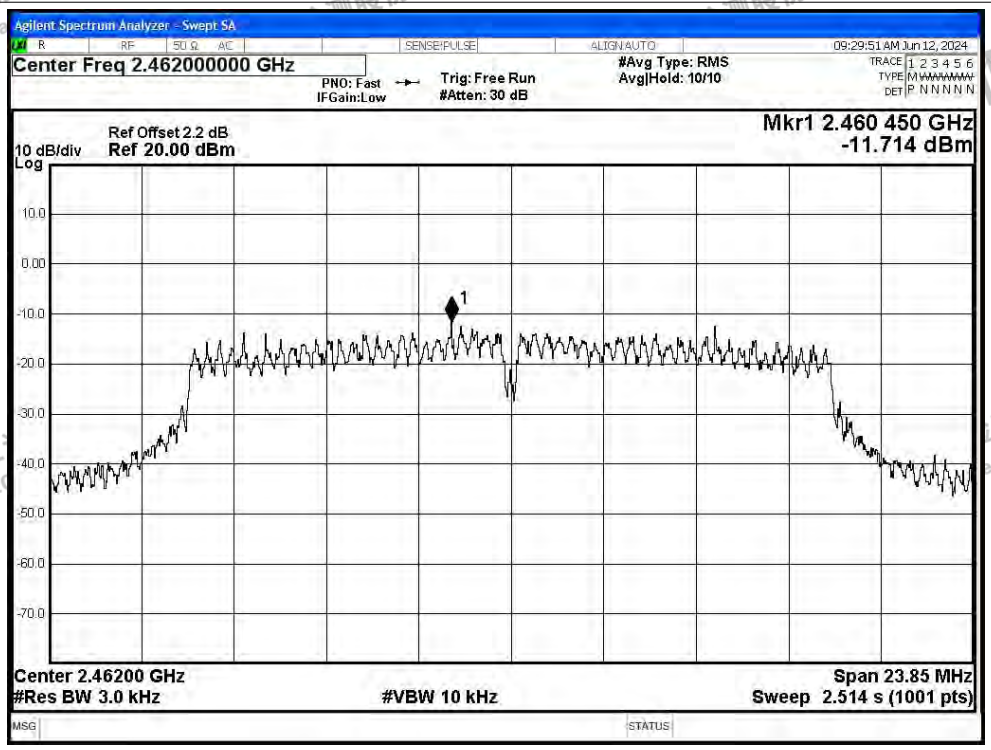
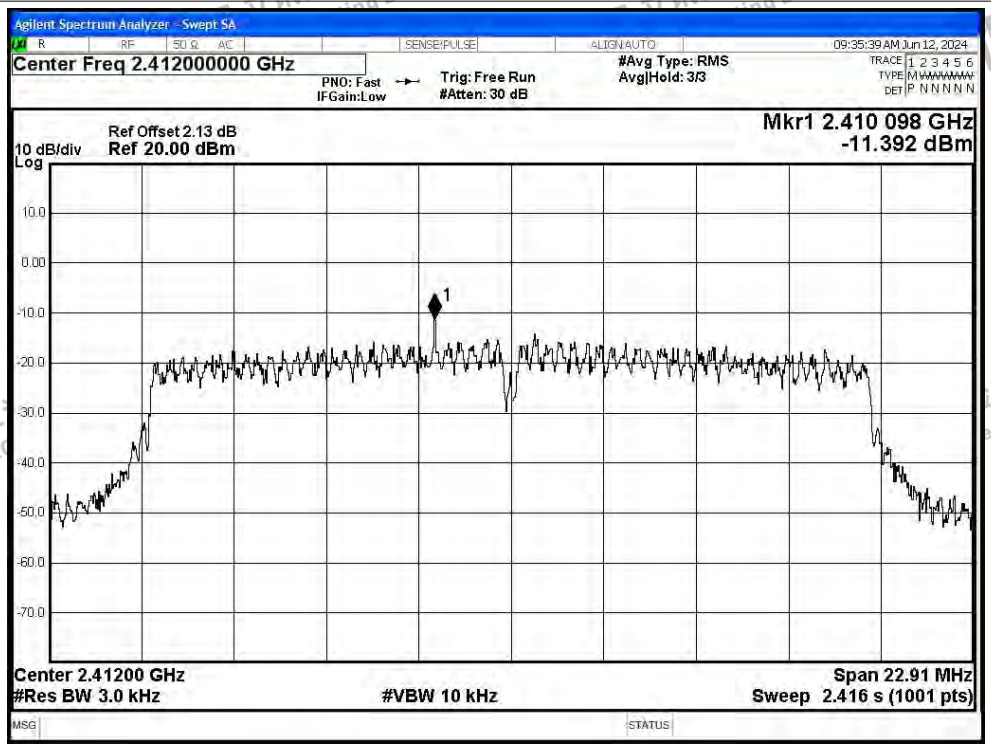
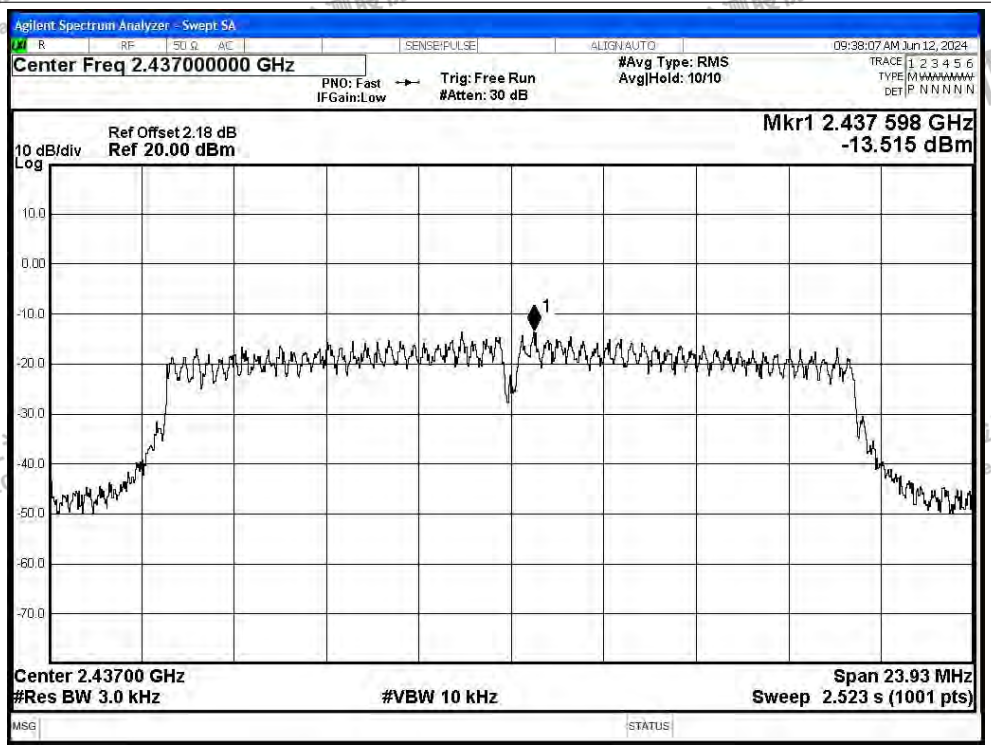


PSD NVNT n20 2412MHz Ant2



PSD NVNT n20 2437MHz Ant2



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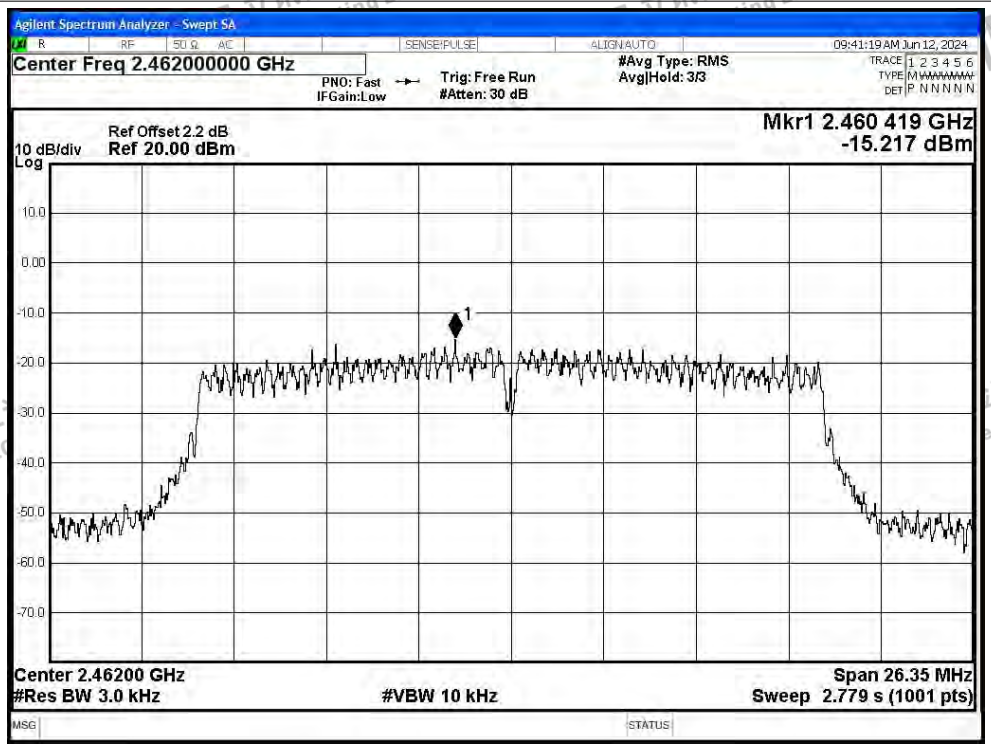
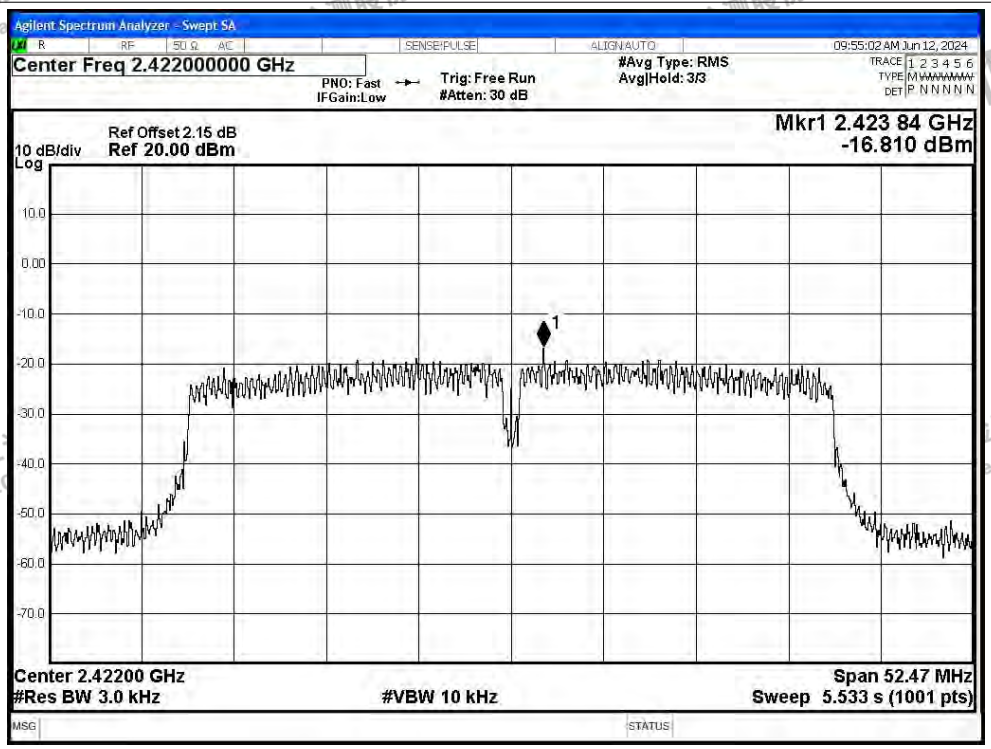
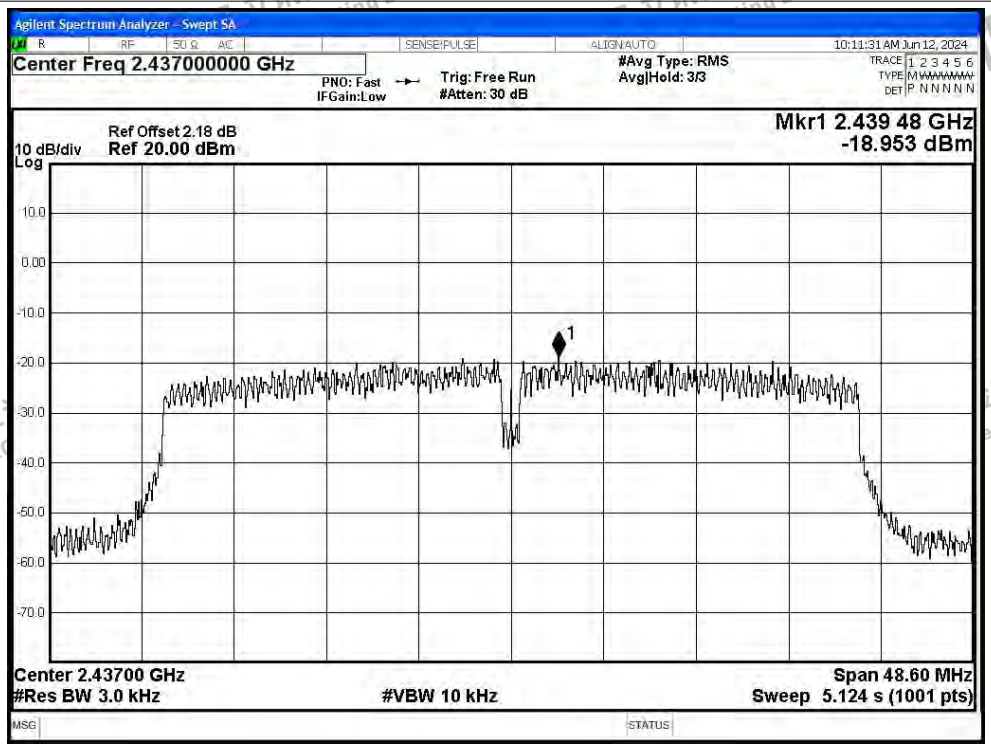


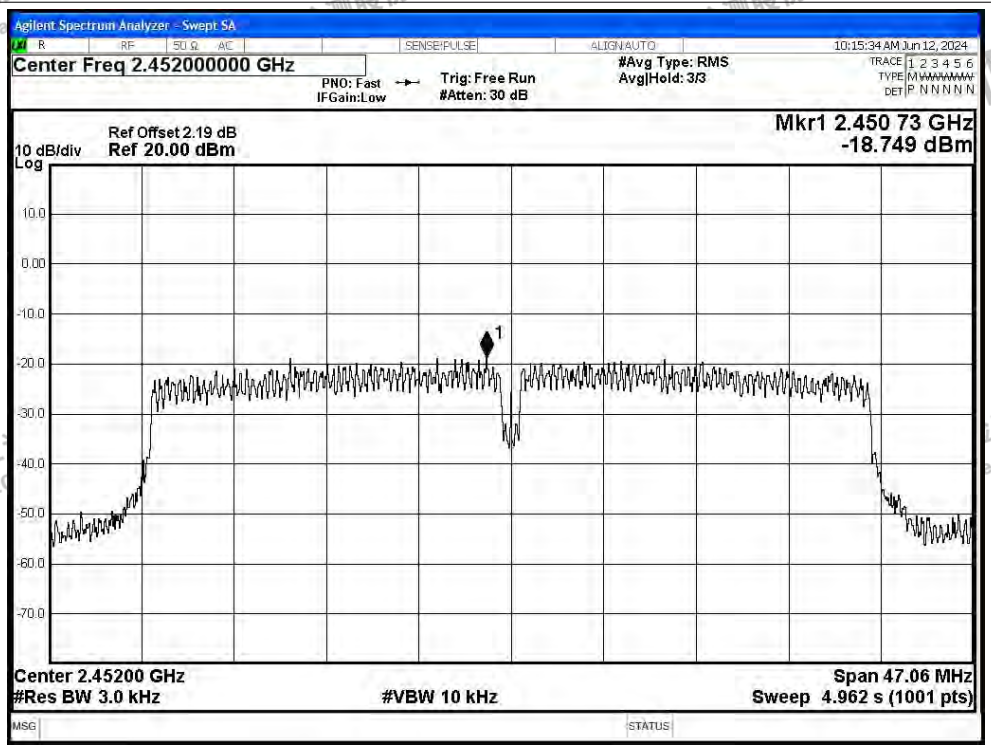
PSD NVNT n40 2422MHz Ant2



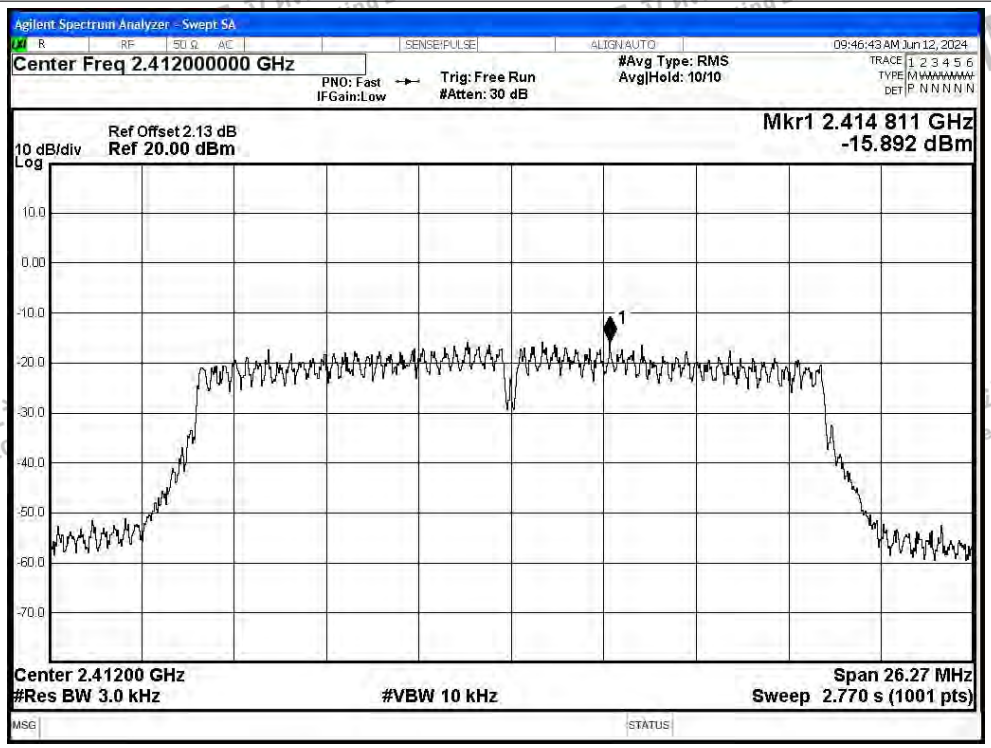
PSD NVNT n40 2437MHz Ant2



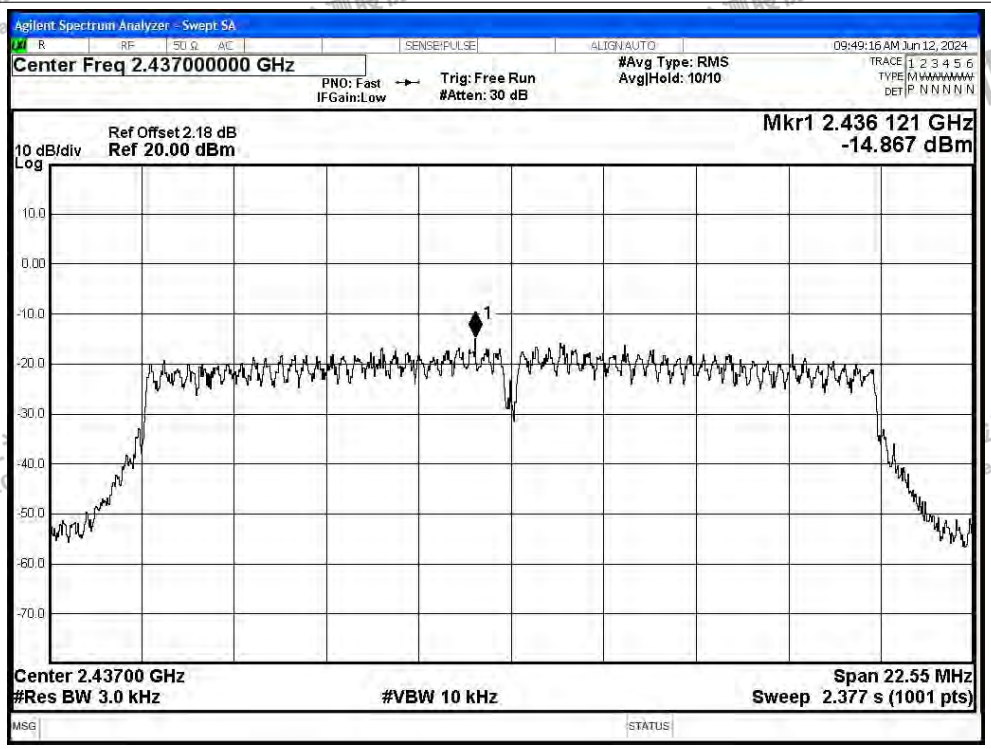
PSD NVNT n40 2452MHz Ant2



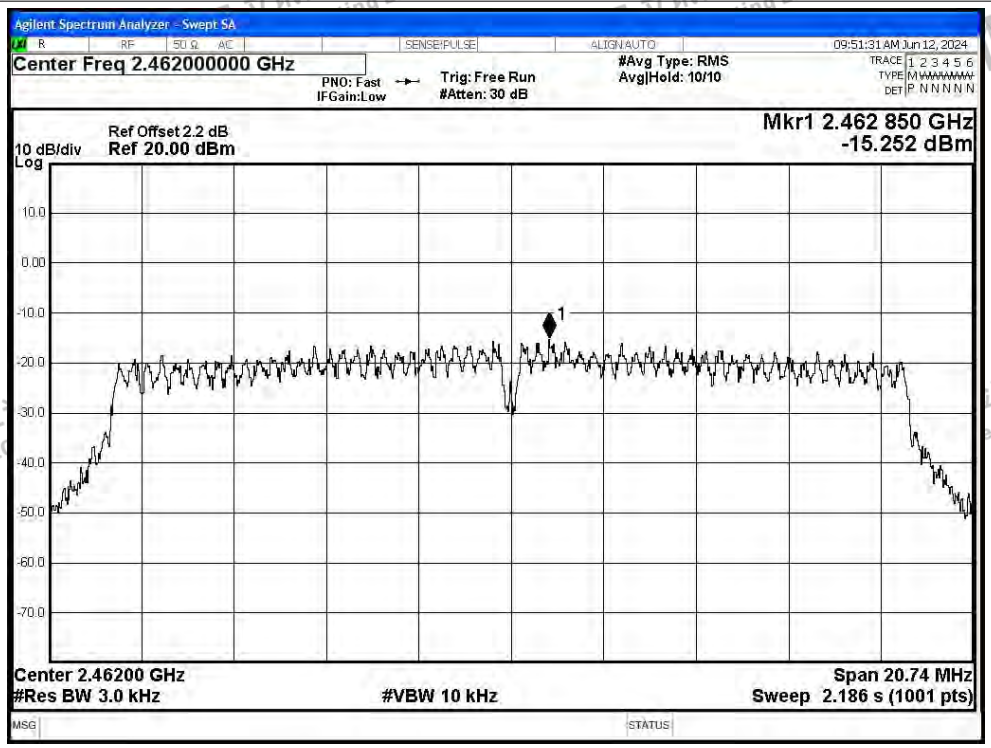
PSD NVNT ax20 2412MHz Ant2



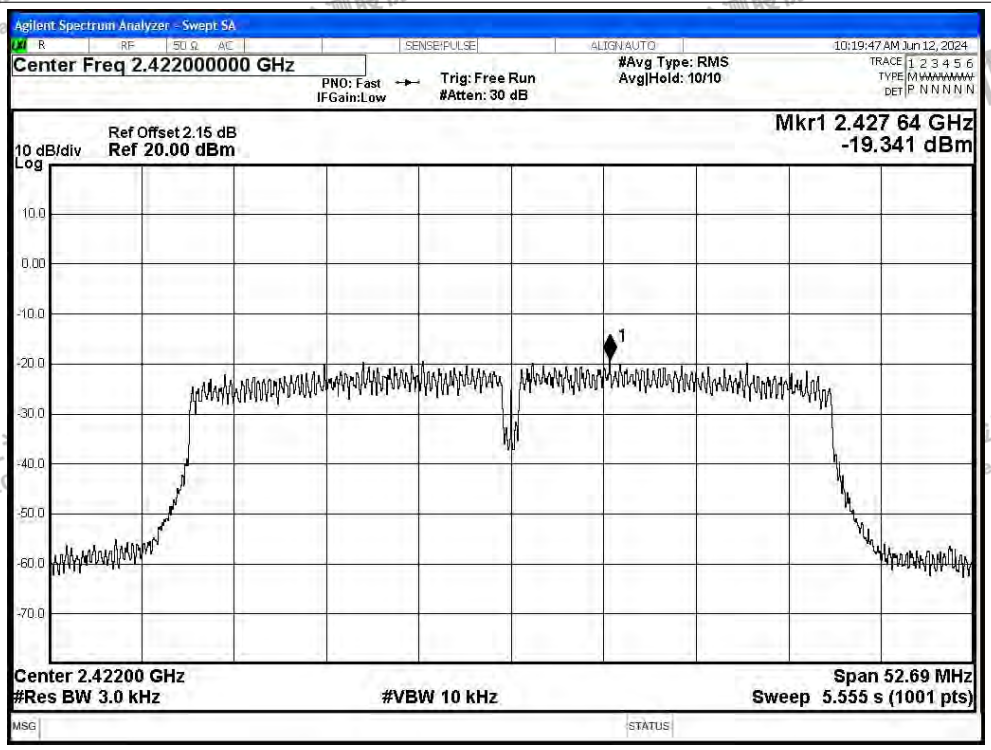
PSD NVNT ax20 2437MHz Ant2



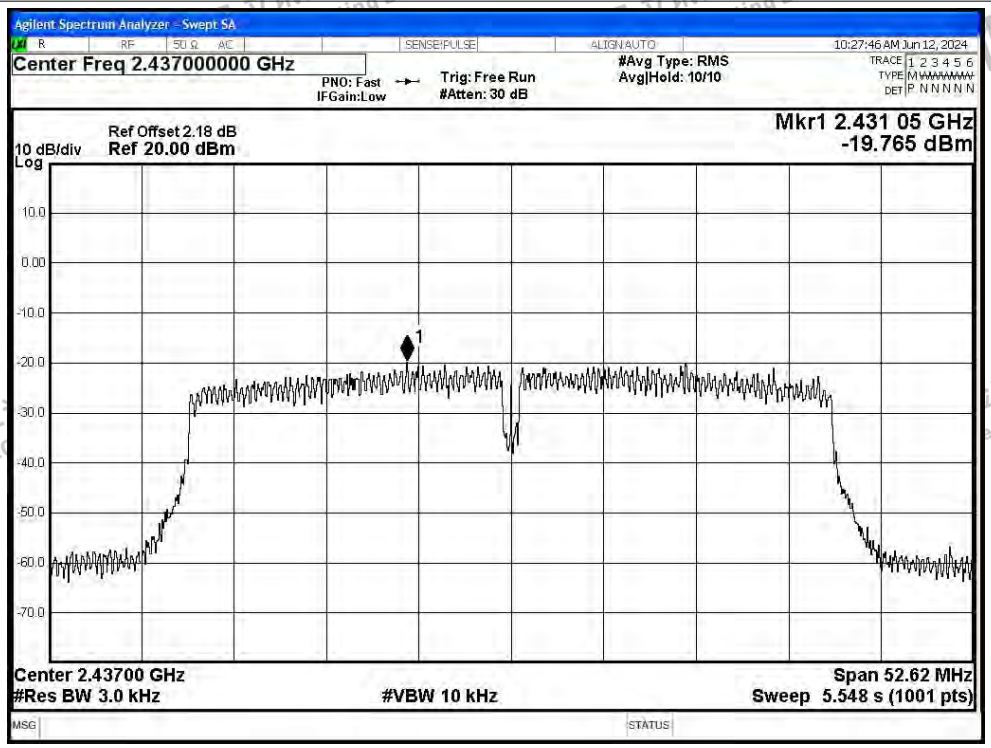
PSD NVNT ax20 2462MHz Ant2



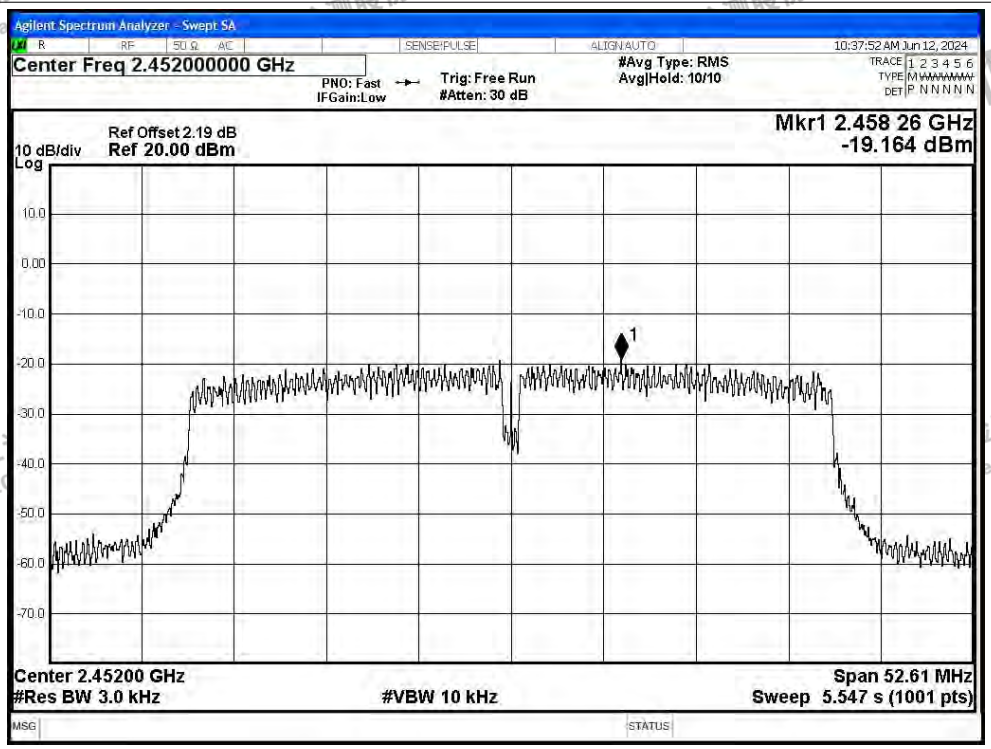
PSD NVNT ax40 2422MHz Ant2



PSD NVNT ax40 2437MHz Ant2

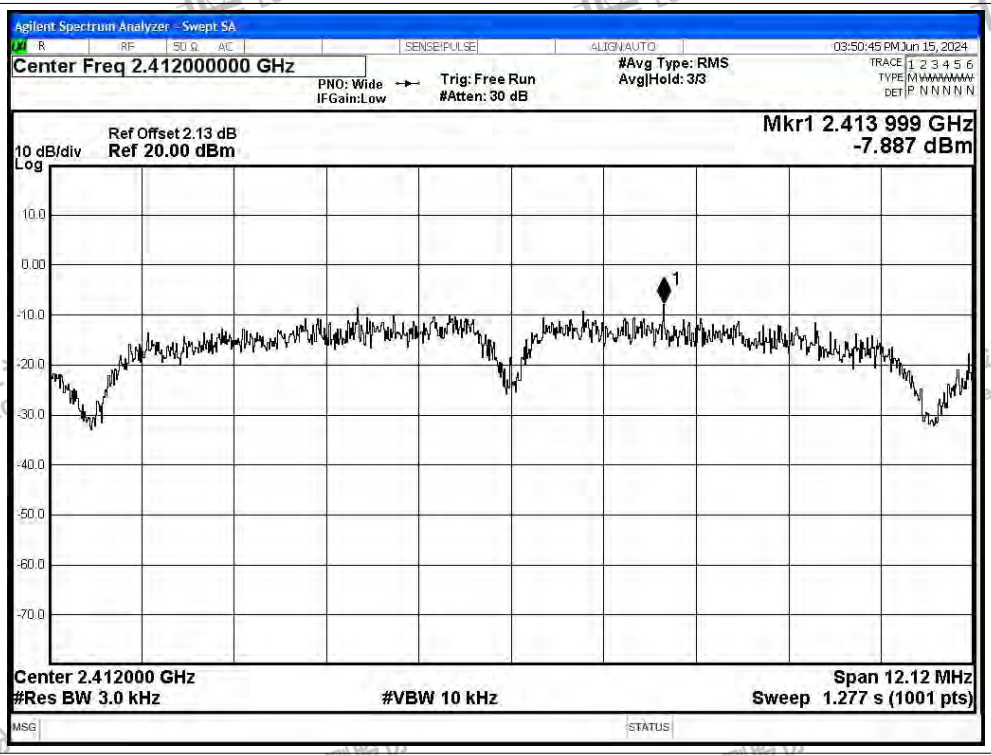


PSD NVNT ax40 2452MHz Ant2

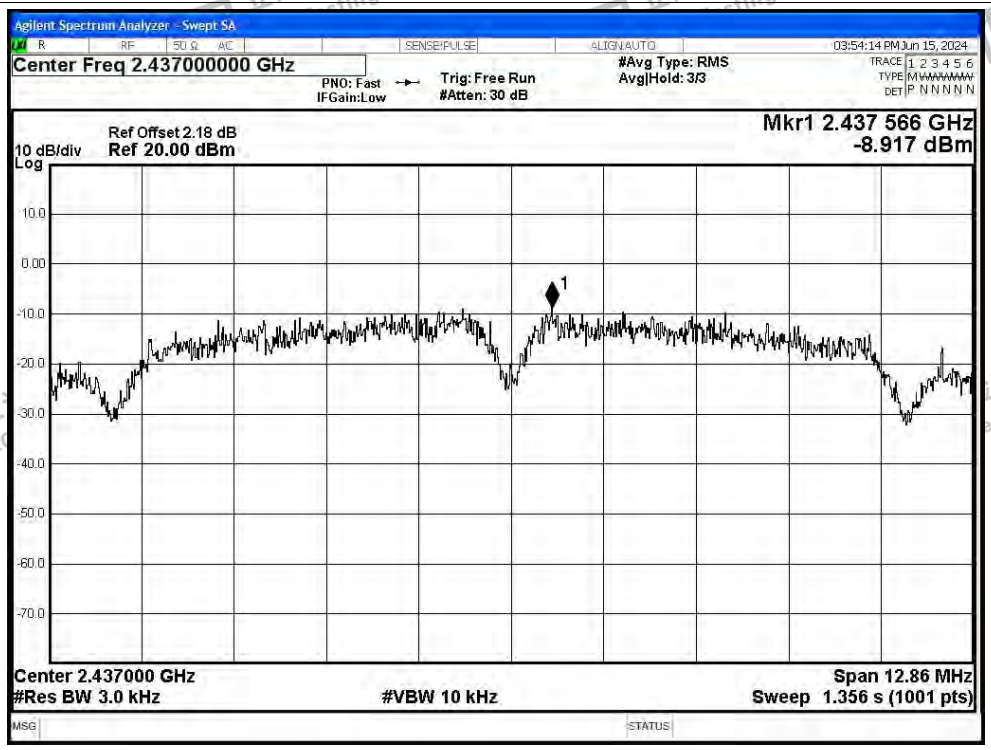


Test Graphs

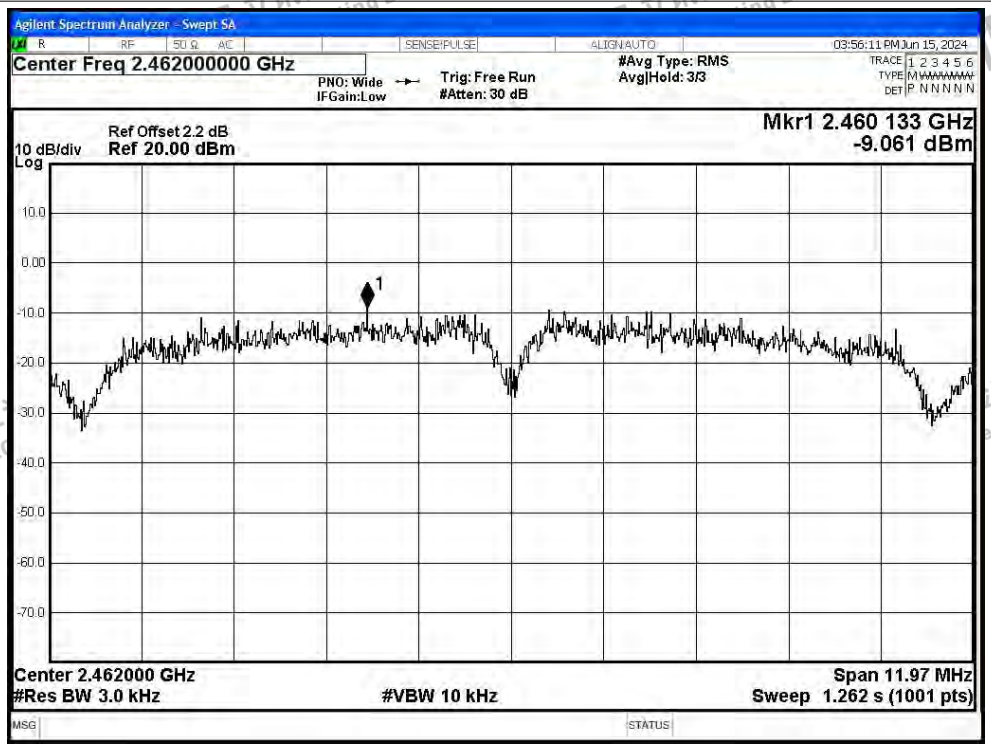
PSD NVNT b 2412MHz Ant3



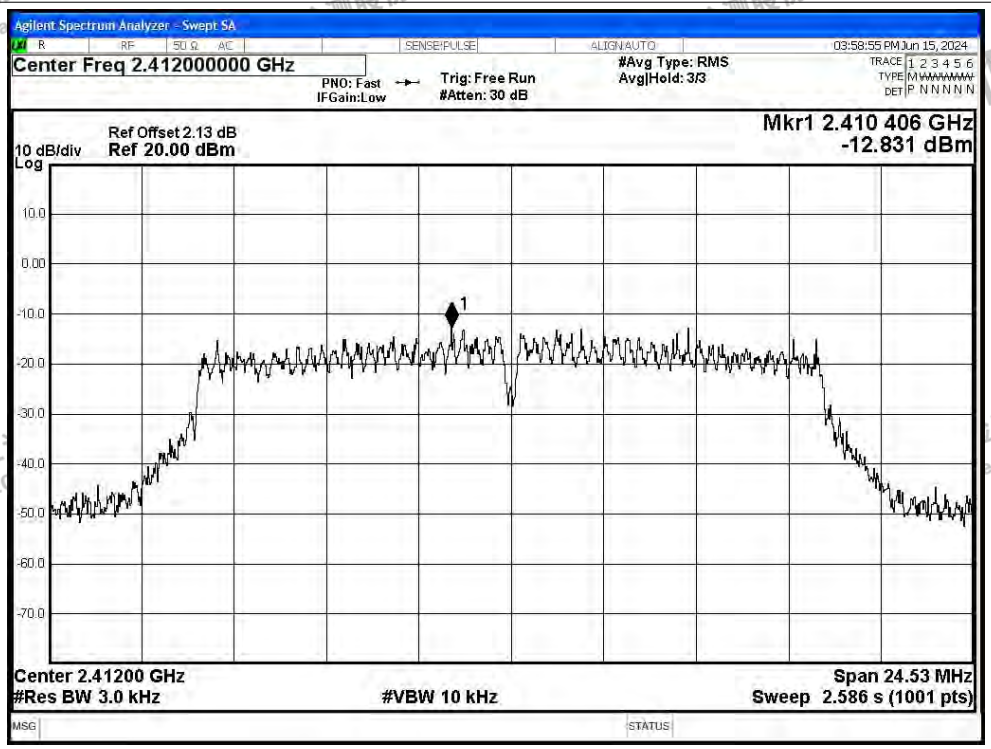
PSD NVNT b 2437MHz Ant3



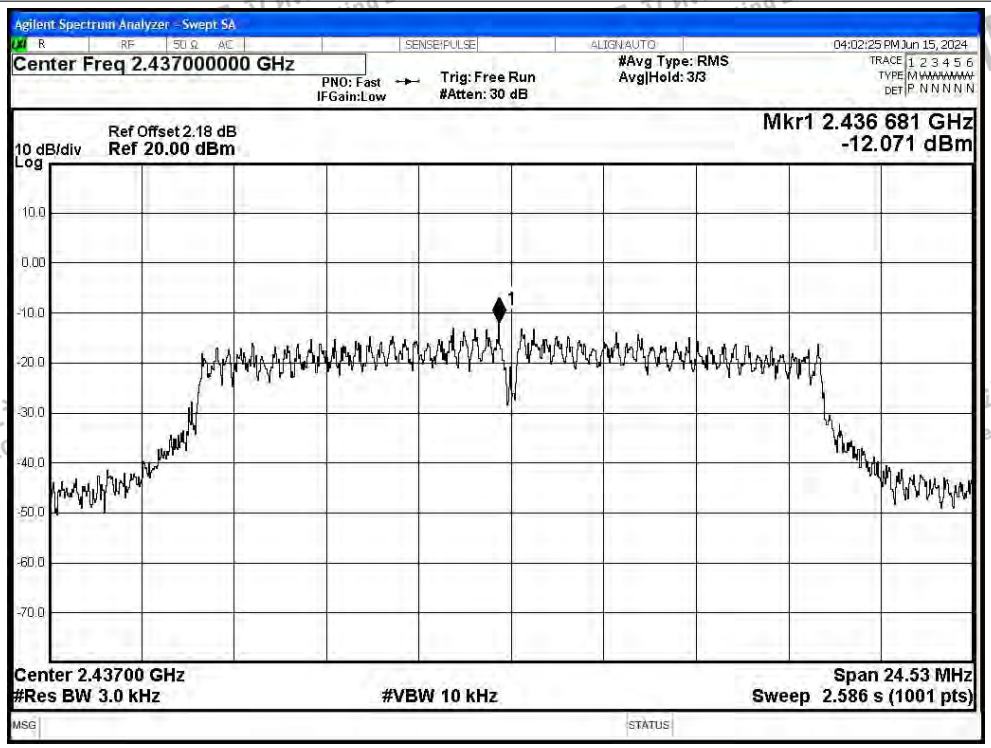
PSD NVNT b 2462MHz Ant3



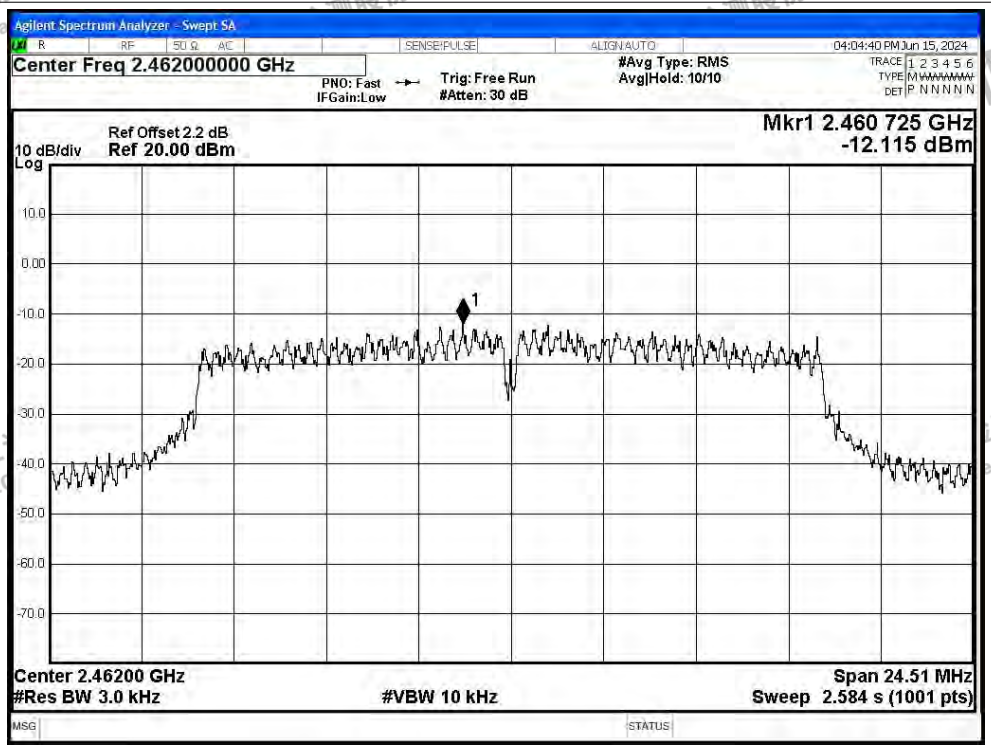
PSD NVNT g 2412MHz Ant3



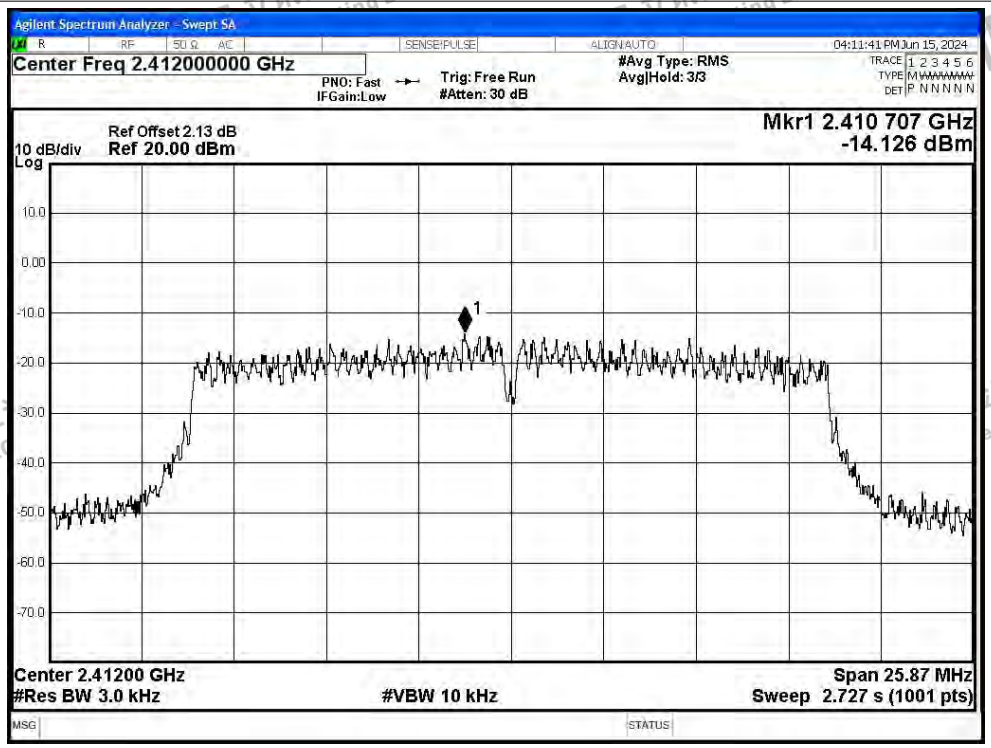
PSD NVNT g 2437MHz Ant3



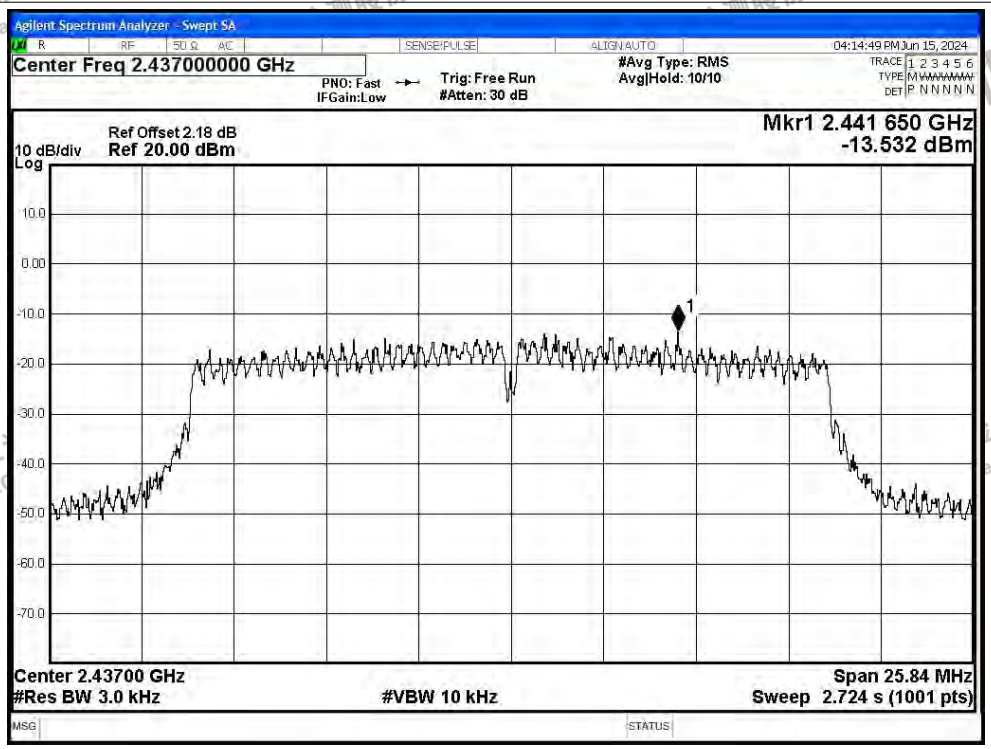
PSD NVNT g 2462MHz Ant3



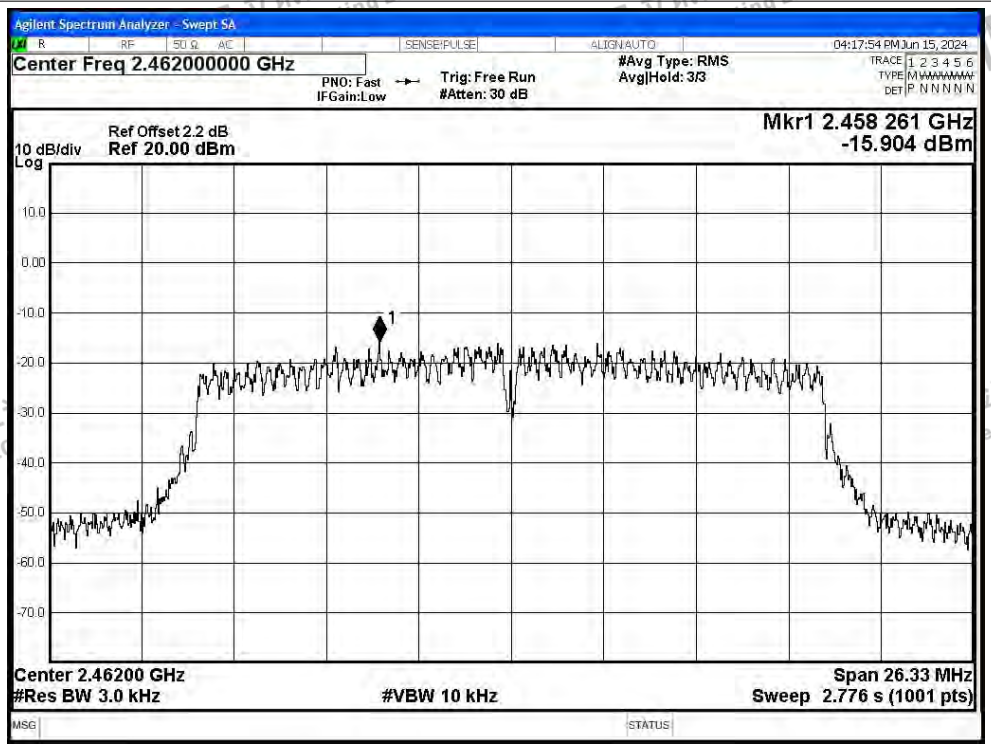
PSD NVNT n20 2412MHz Ant3



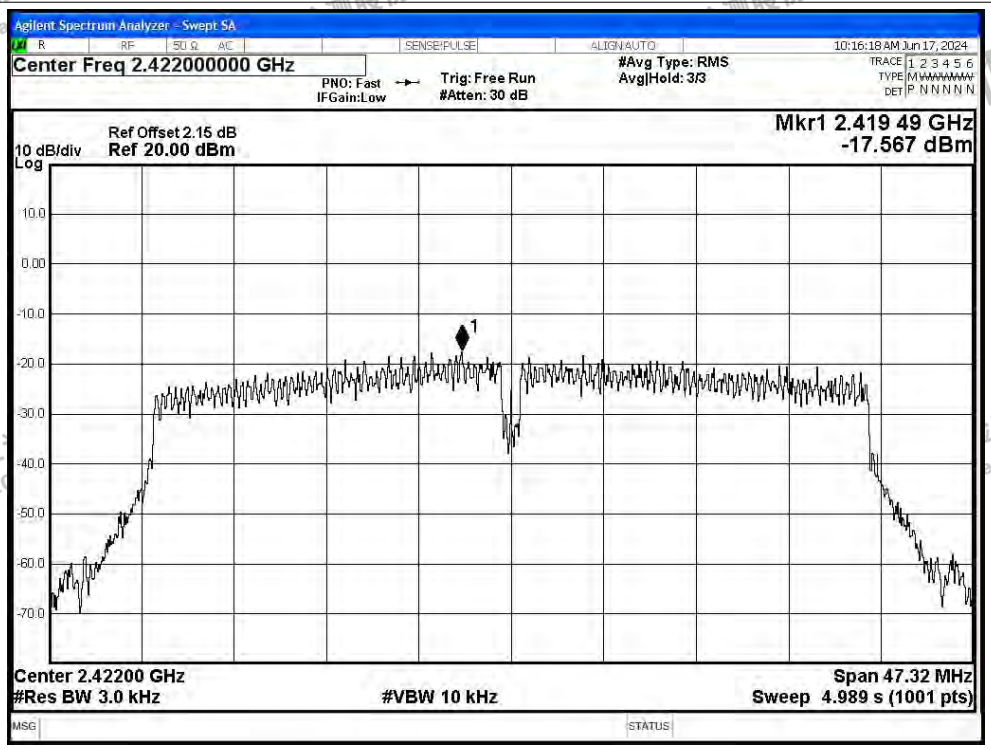
PSD NVNT n20 2437MHz Ant3



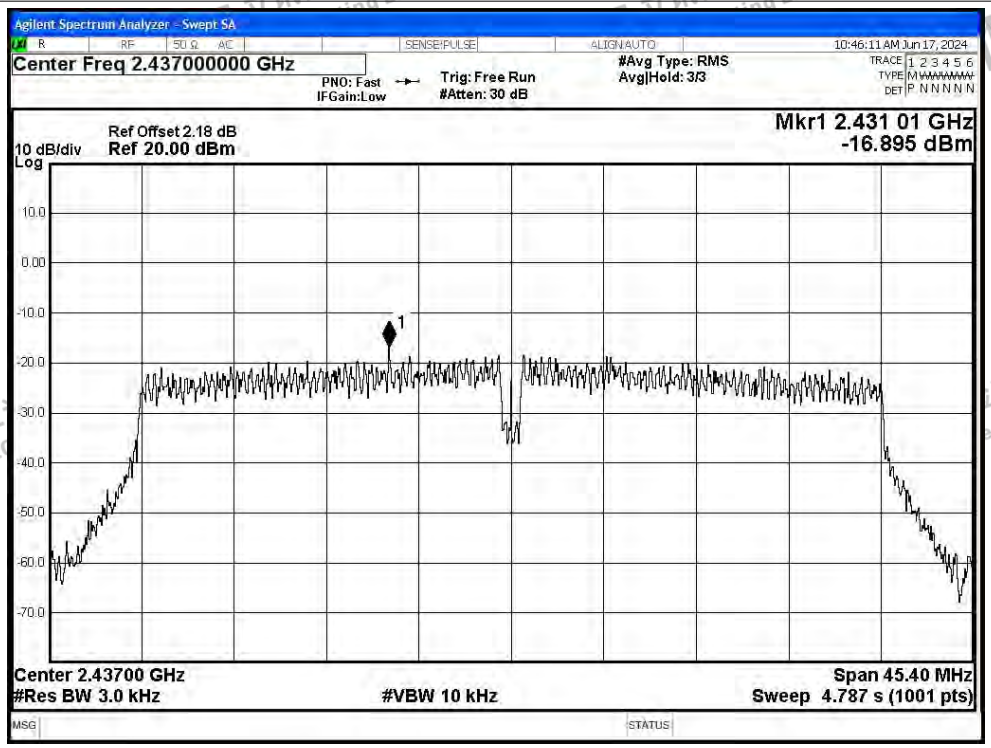
PSD NVNT n20 2462MHz Ant3



PSD NVNT n40 2422MHz Ant3



PSD NVNT n40 2437MHz Ant3



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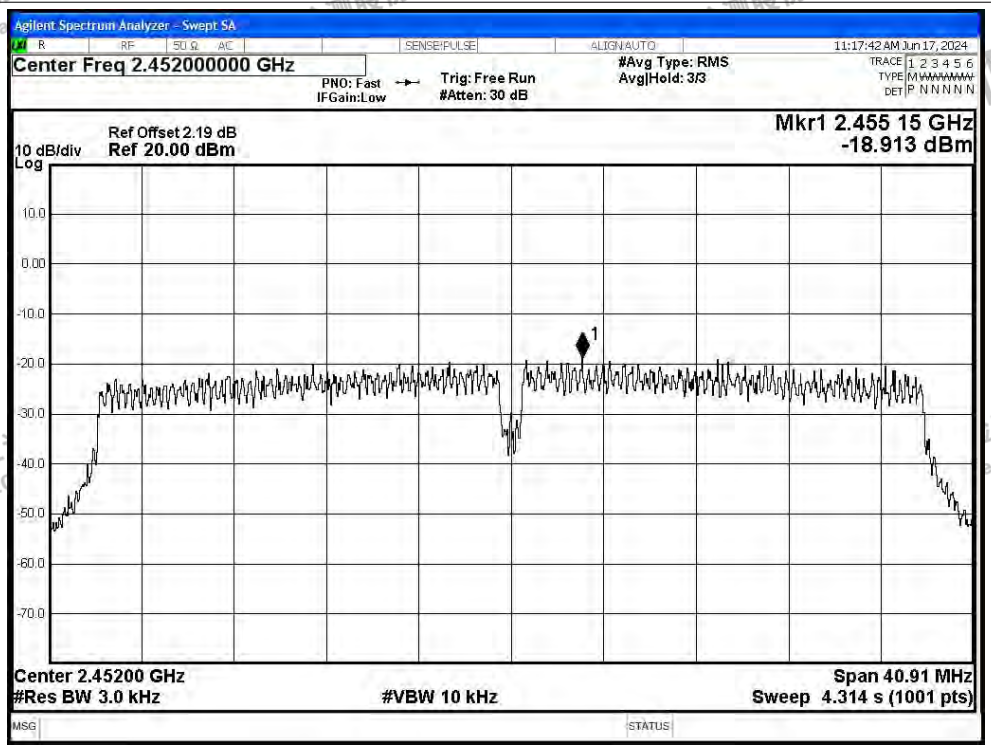
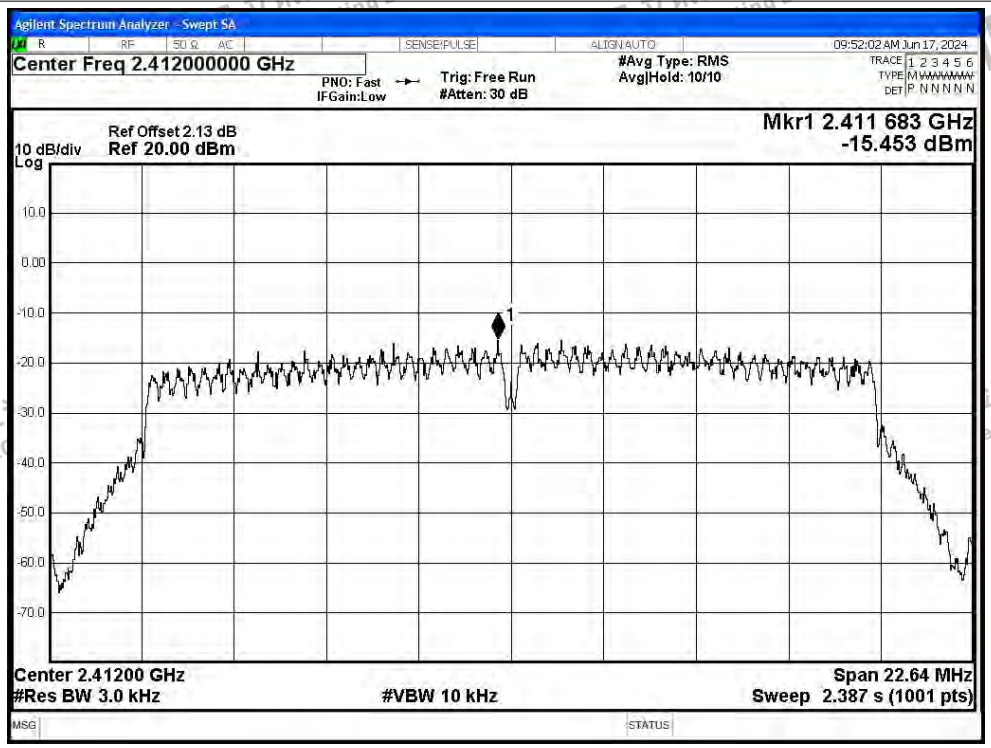
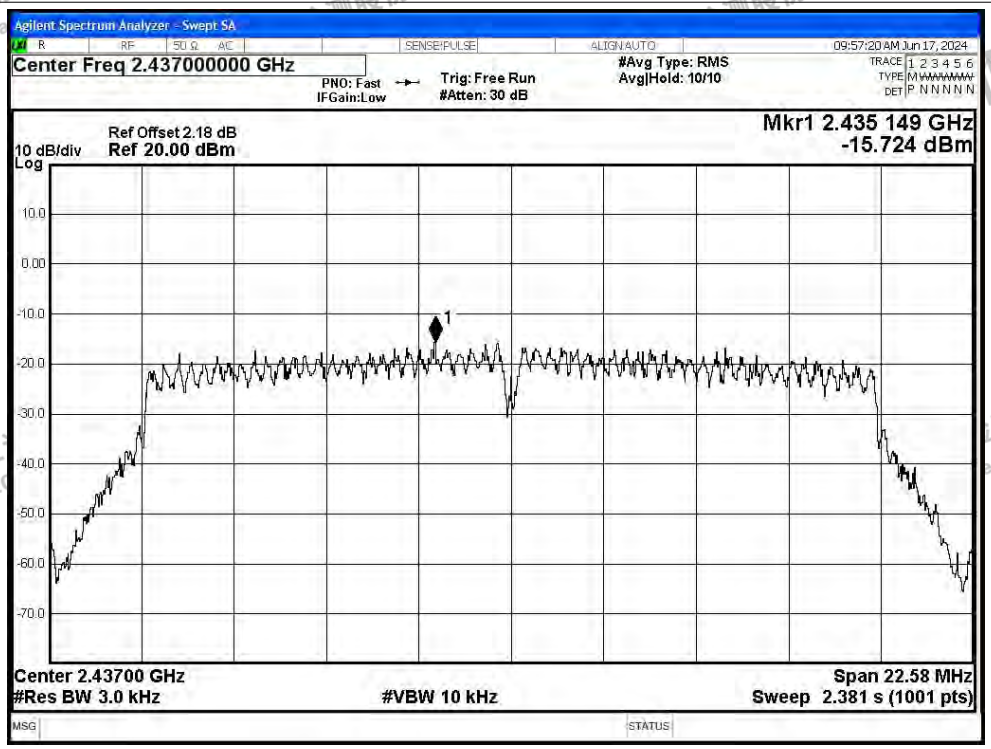


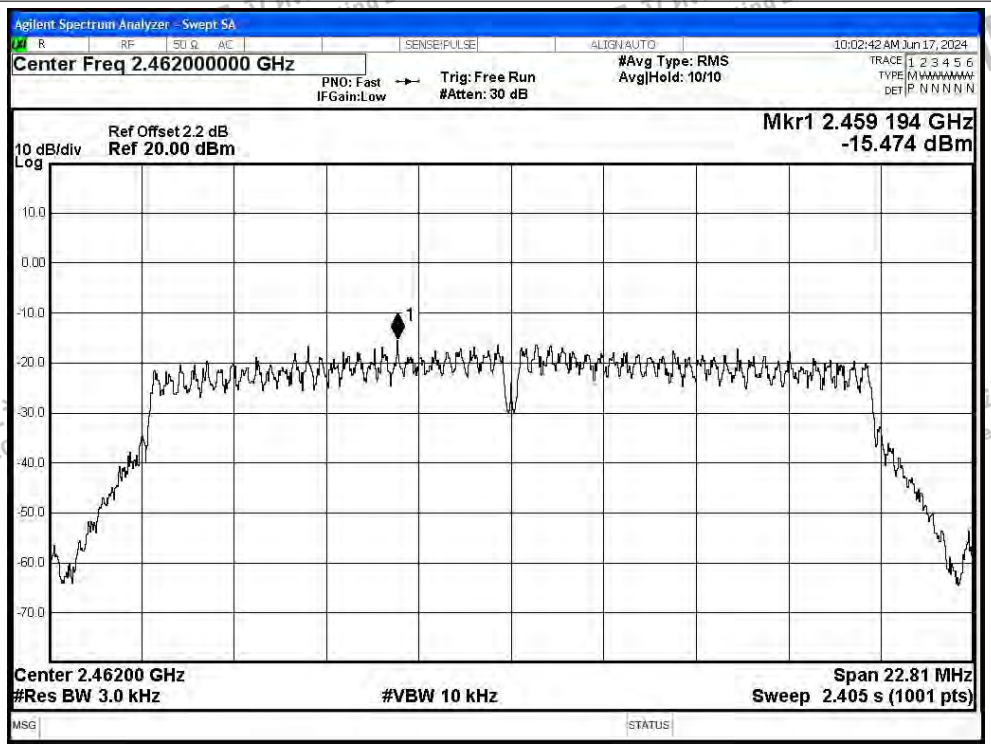
PSD NVNT ax20 2412MHz Ant3



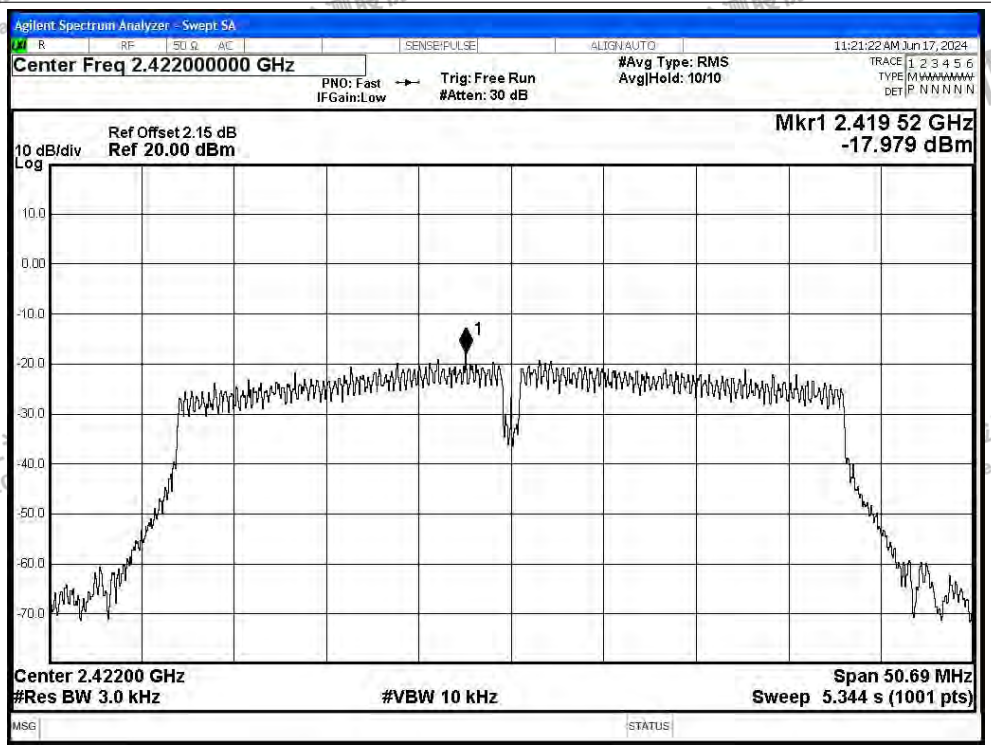
PSD NVNT ax20 2437MHz Ant3



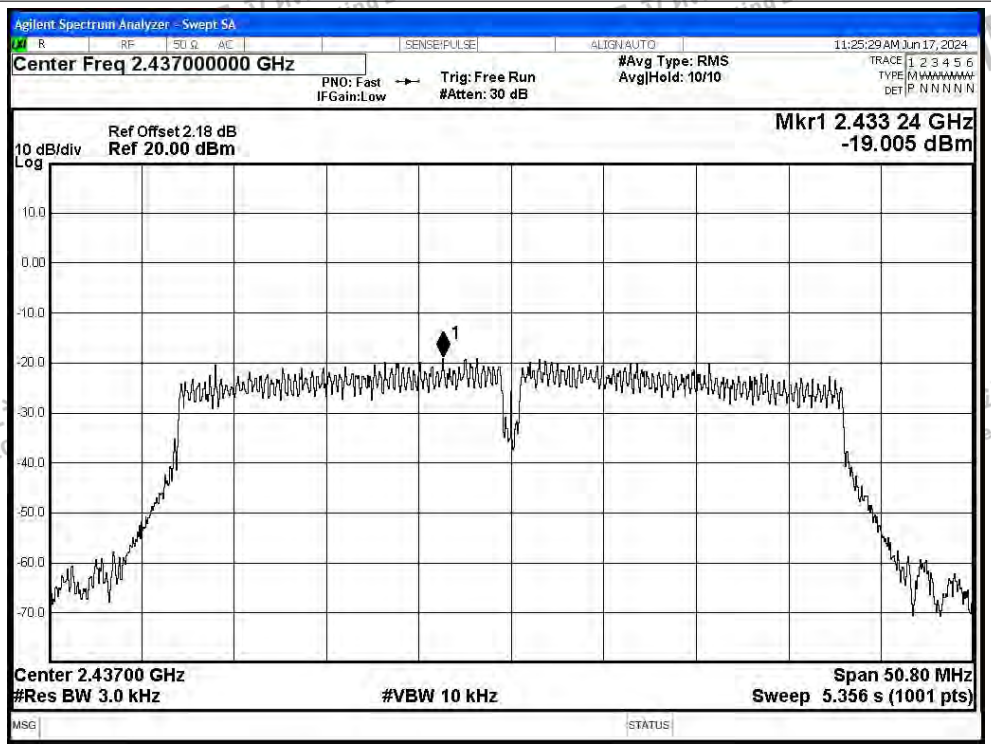
PSD NVNT ax20 2462MHz Ant3



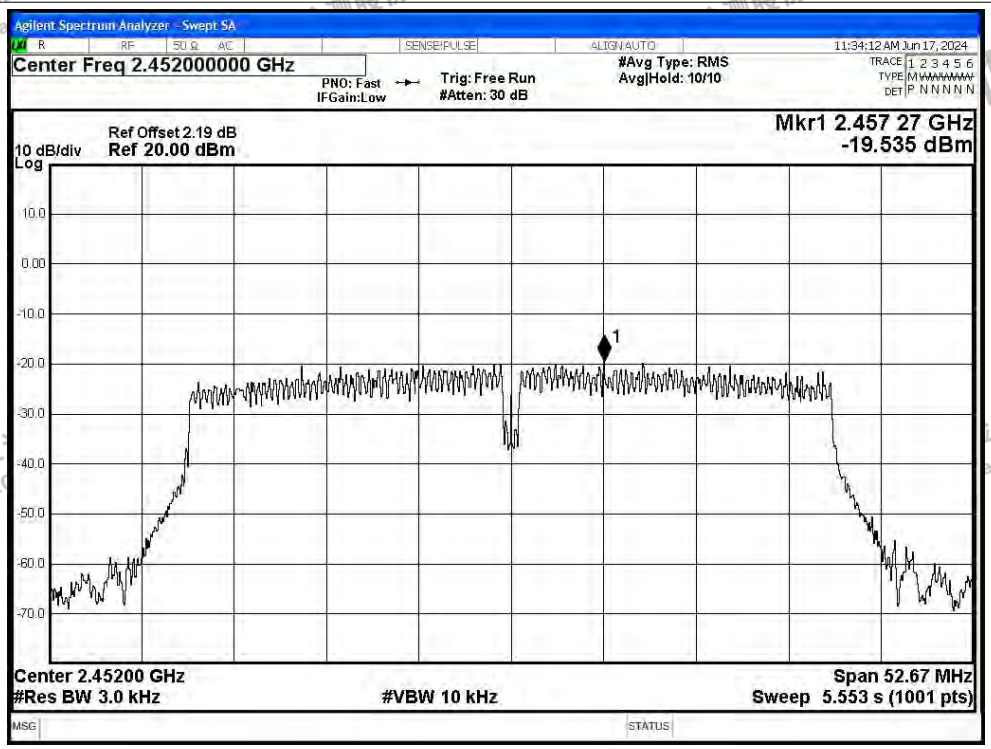
PSD NVNT ax40 2422MHz Ant3



PSD NVNT ax40 2437MHz Ant3

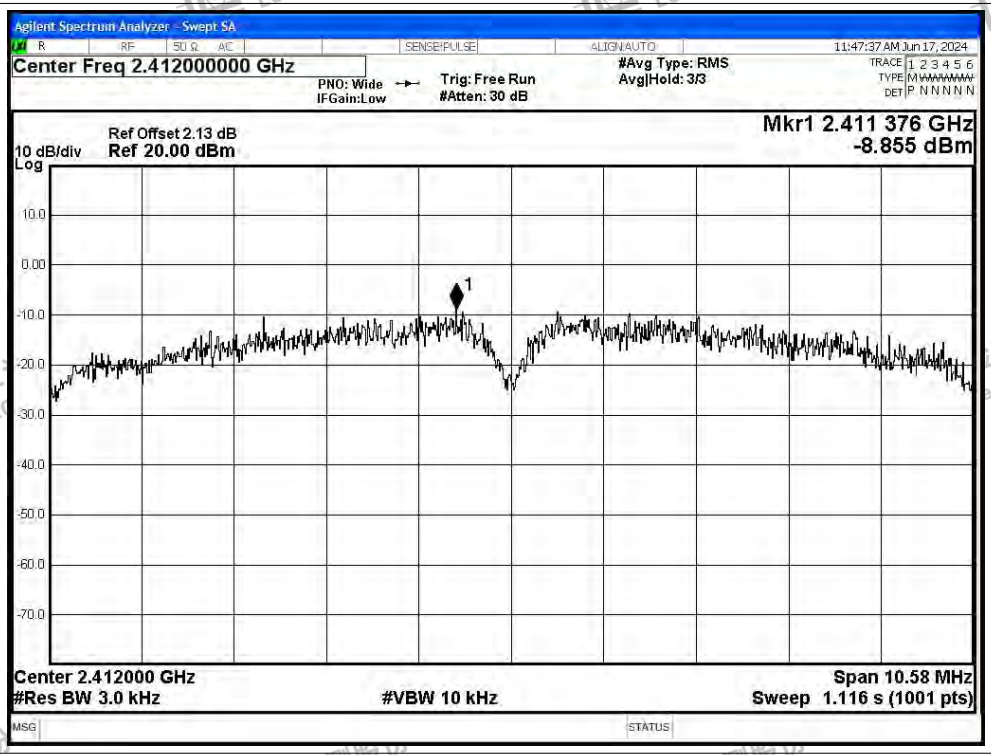


PSD NVNT ax40 2452MHz Ant3

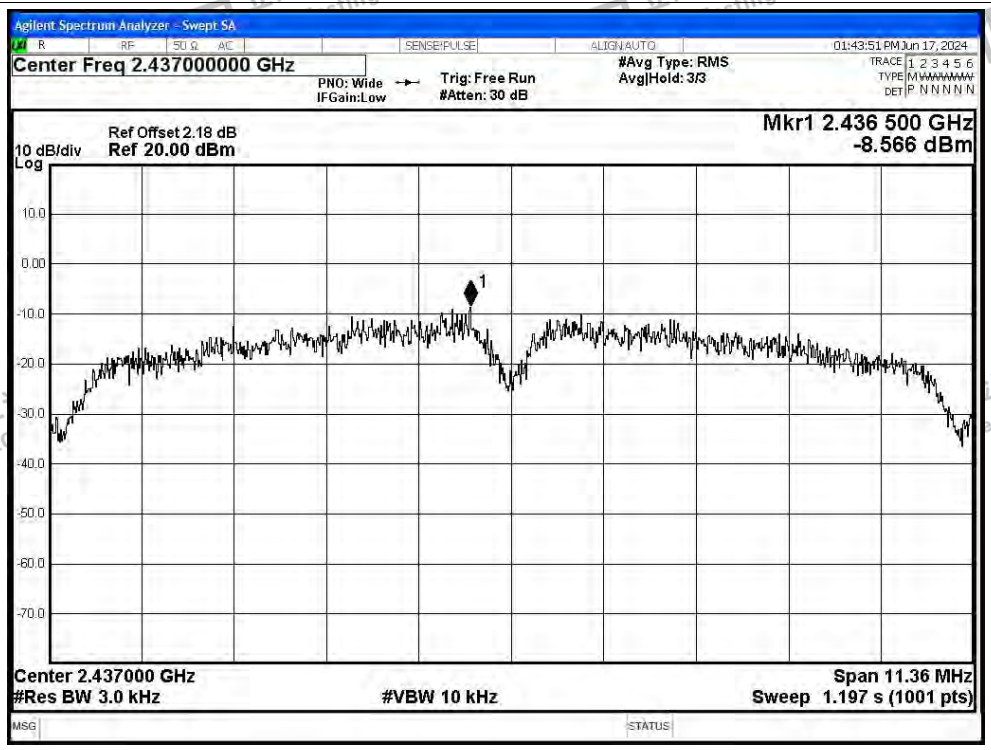


Test Graphs

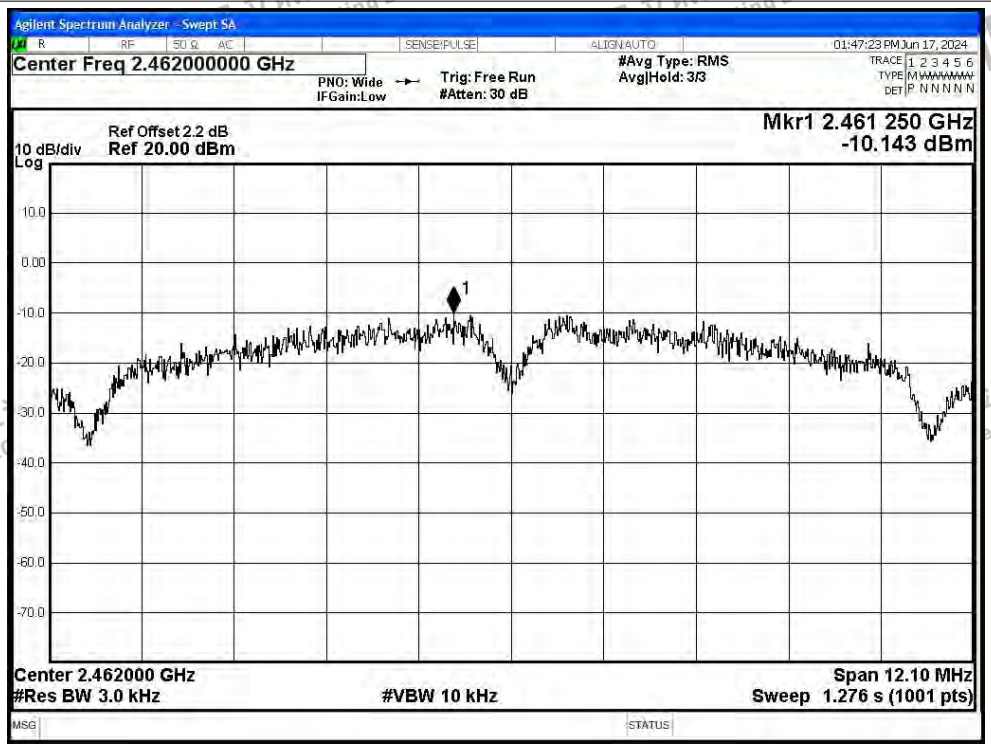
PSD NVNT b 2412MHz Ant4



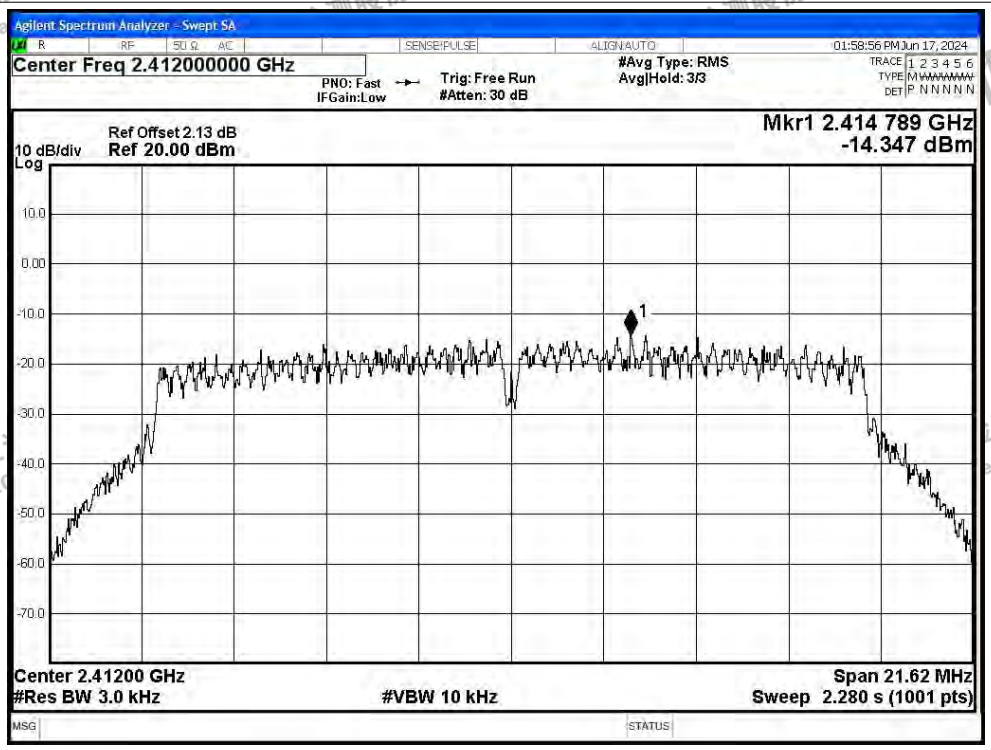
PSD NVNT b 2437MHz Ant4



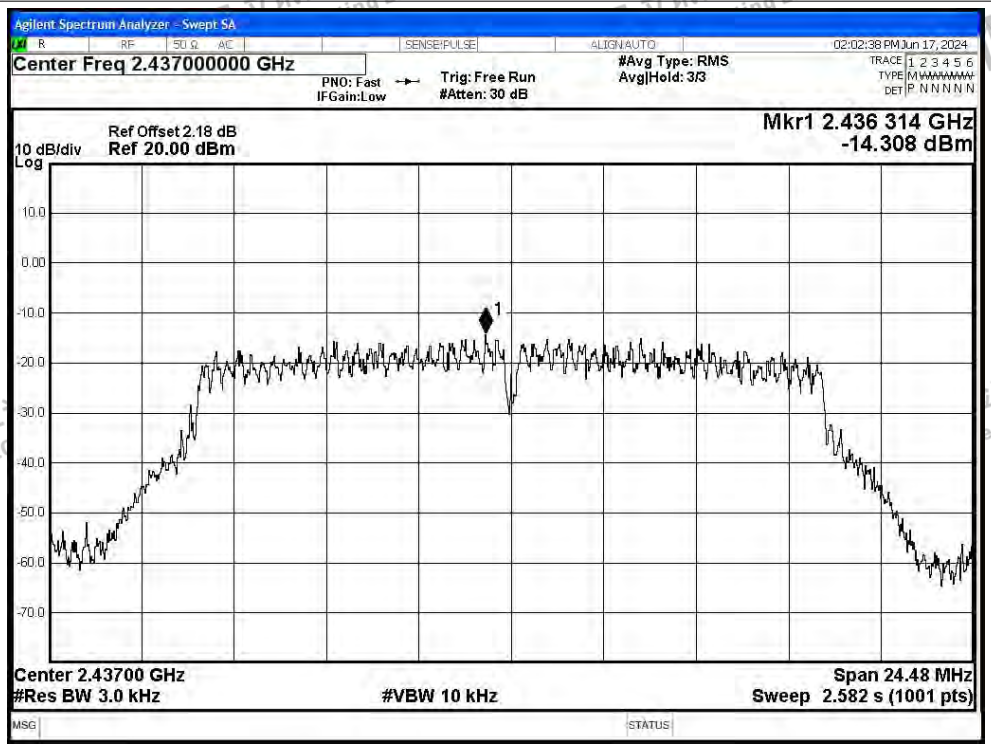
PSD NVNT b 2462MHz Ant4



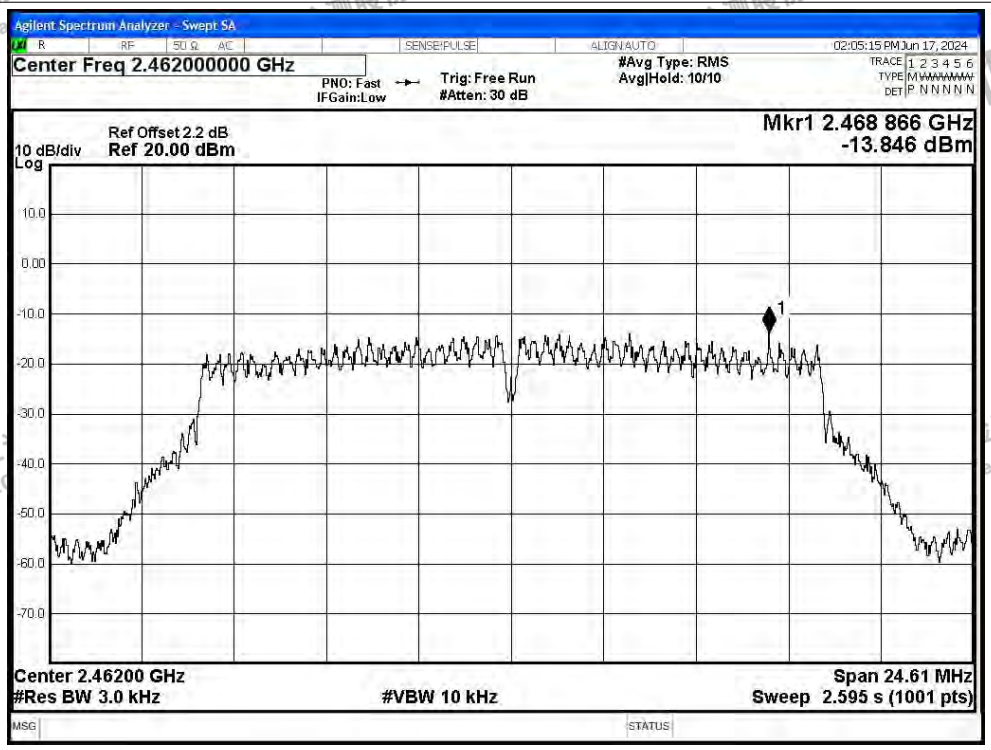
PSD NVNT g 2412MHz Ant4



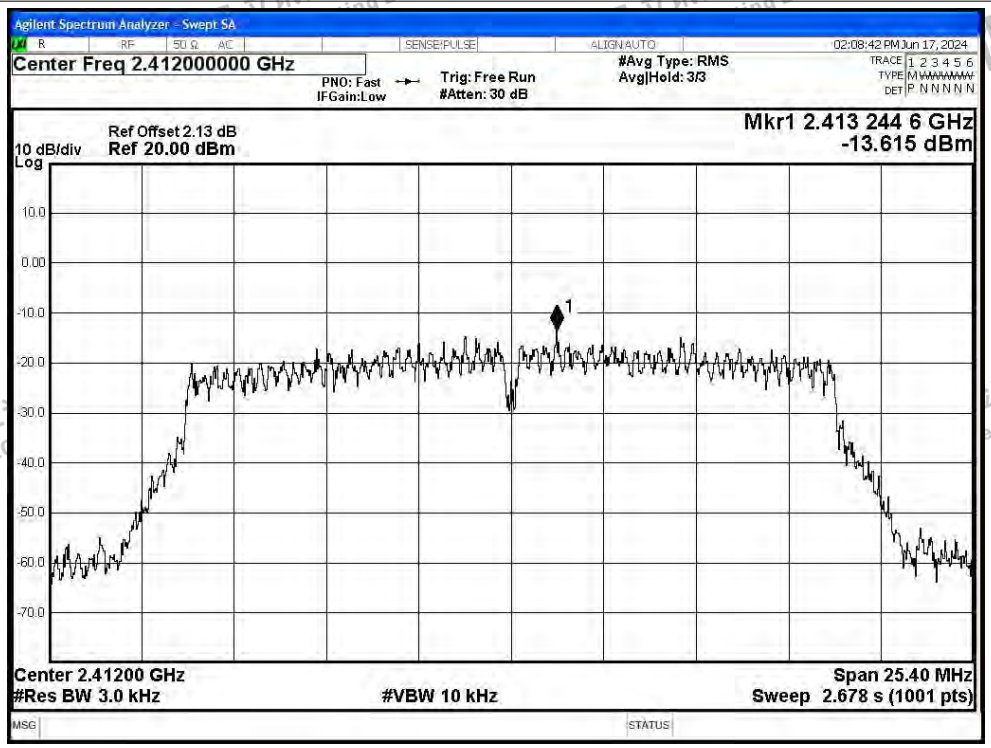
PSD NVNT g 2437MHz Ant4



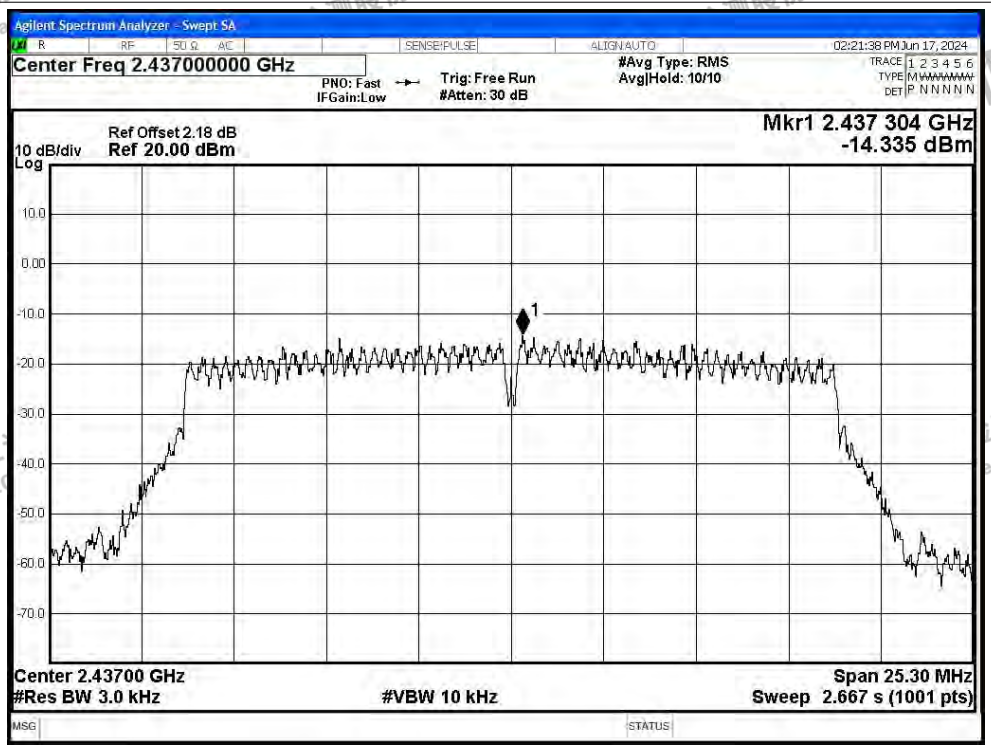
PSD NVNT g 2462MHz Ant4



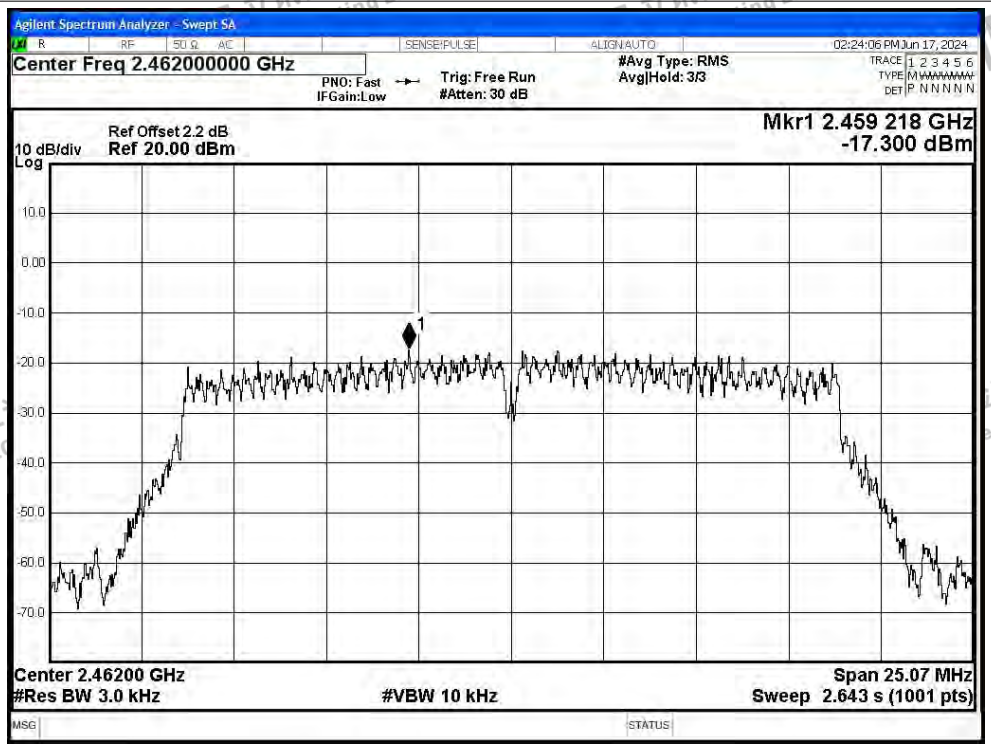
PSD NVNT n20 2412MHz Ant4



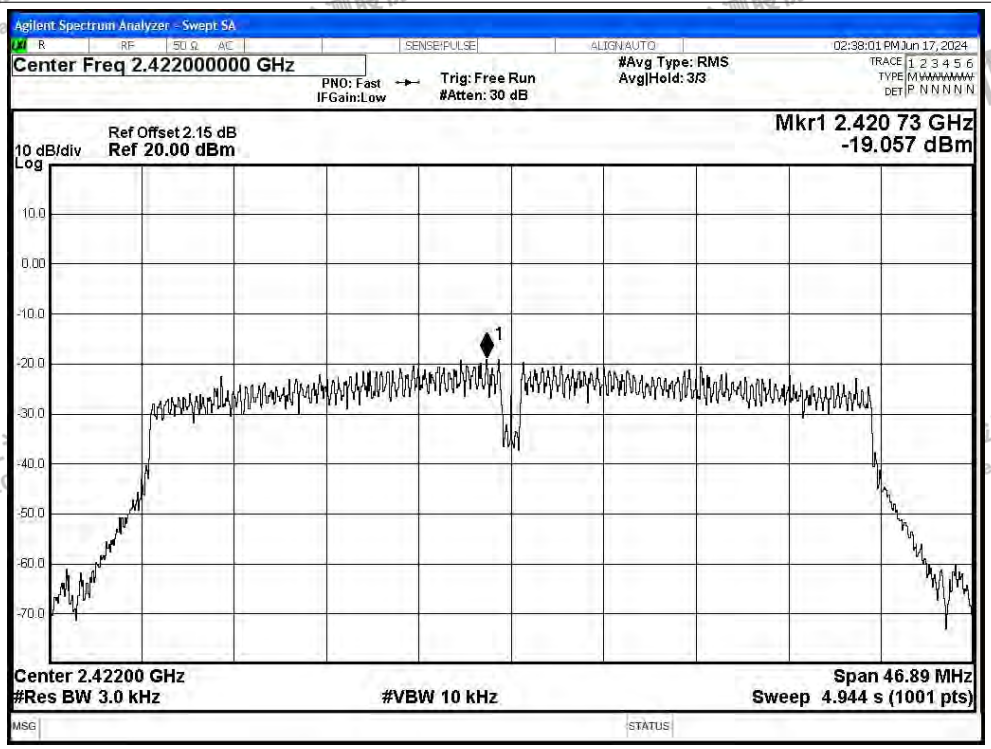
PSD NVNT n20 2437MHz Ant4



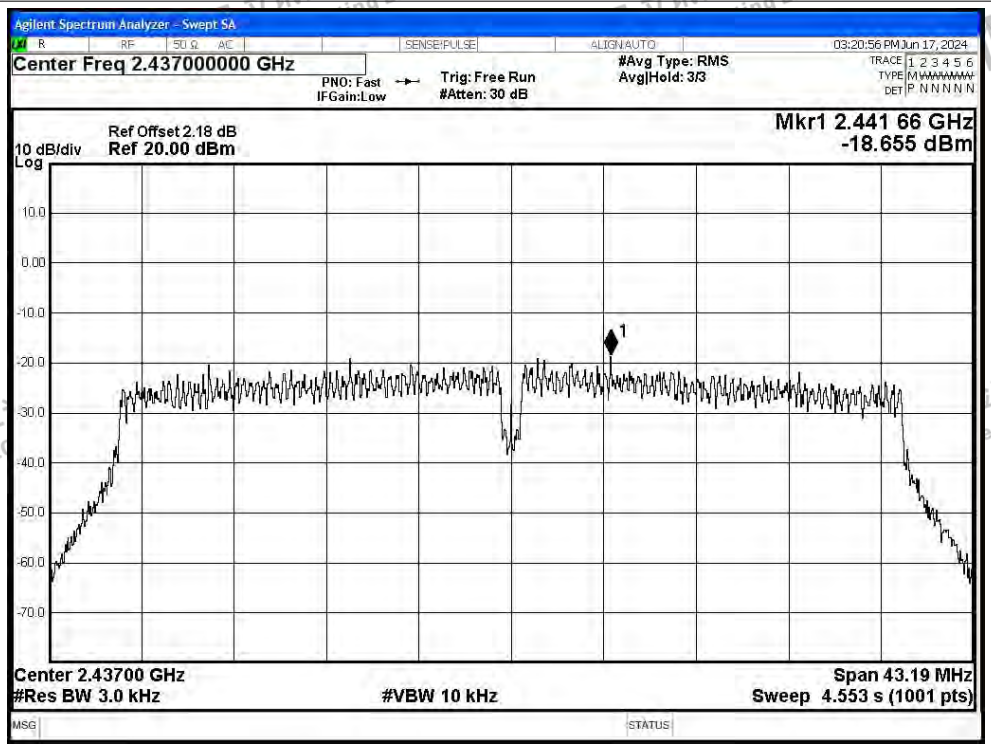
PSD NVNT n20 2462MHz Ant4



PSD NVNT n40 2422MHz Ant4



PSD NVNT n40 2437MHz Ant4



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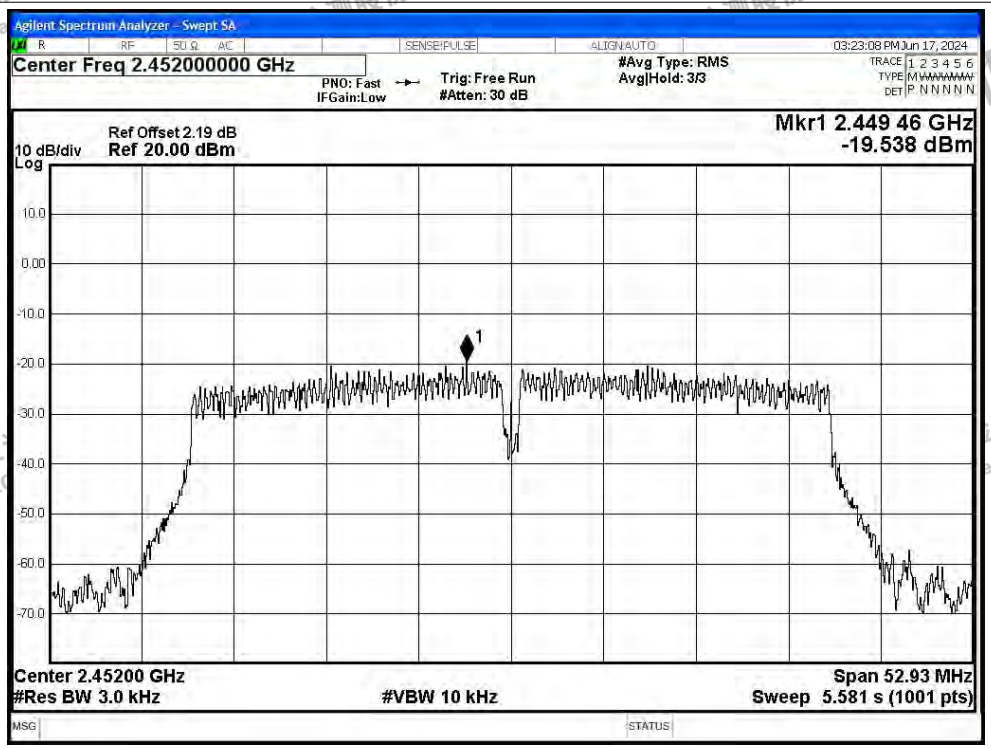
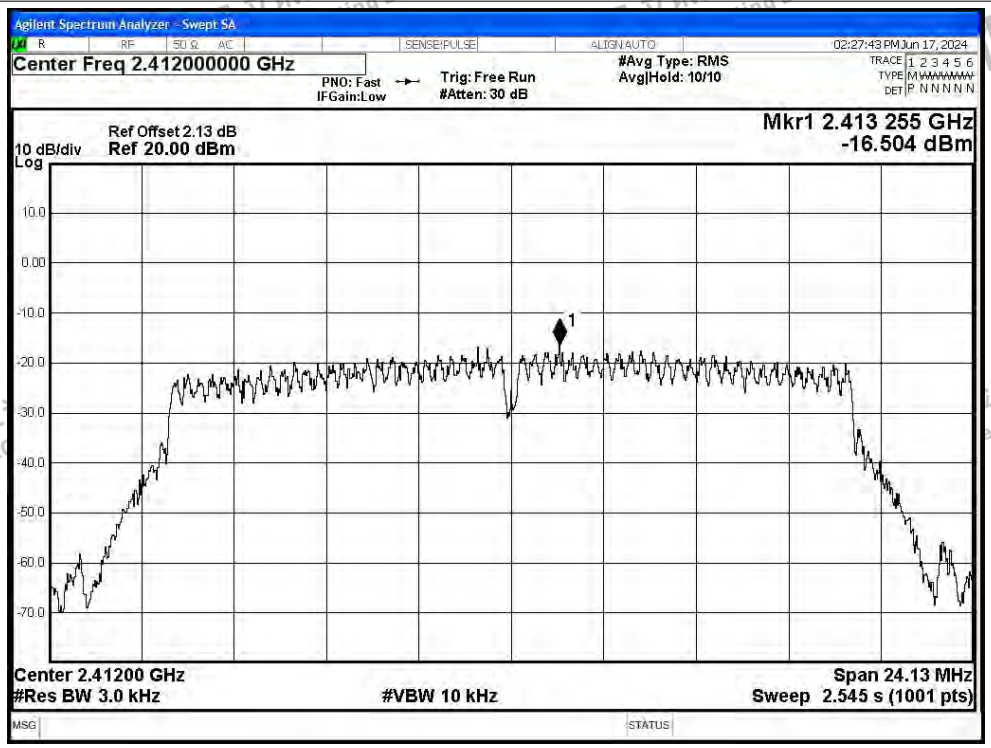
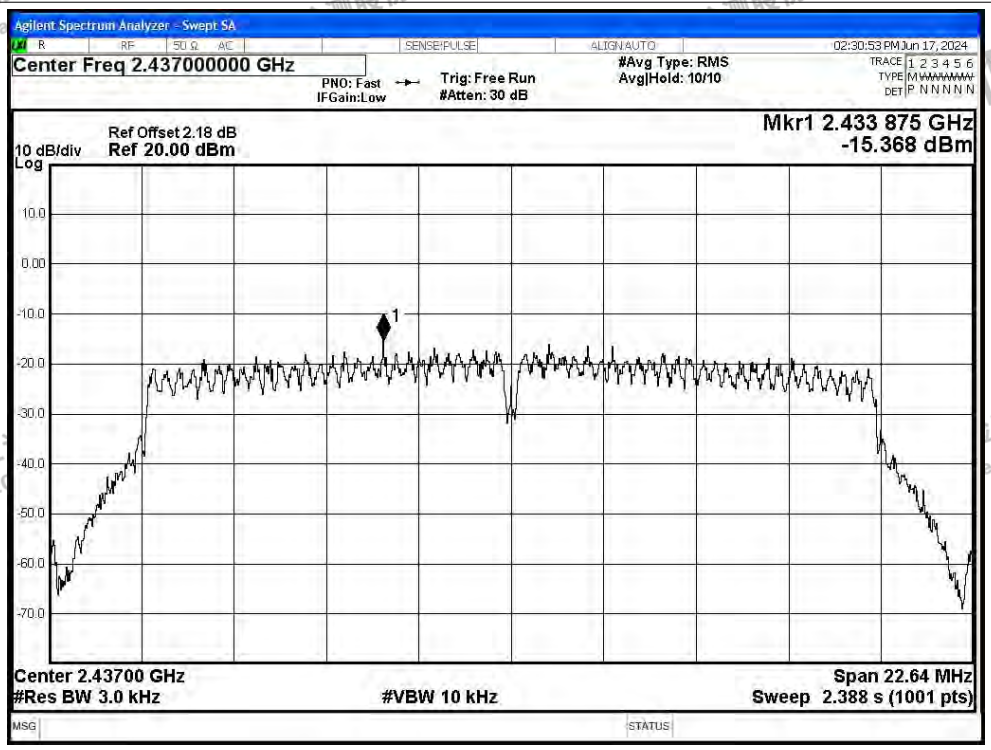


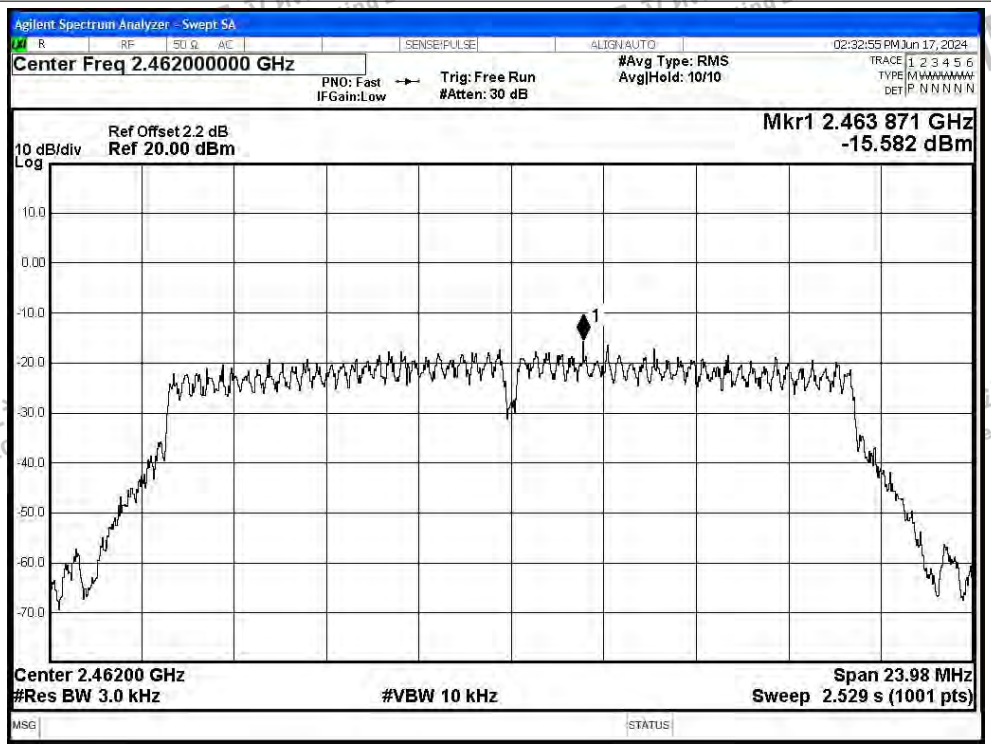
PSD NVNT ax20 2412MHz Ant4



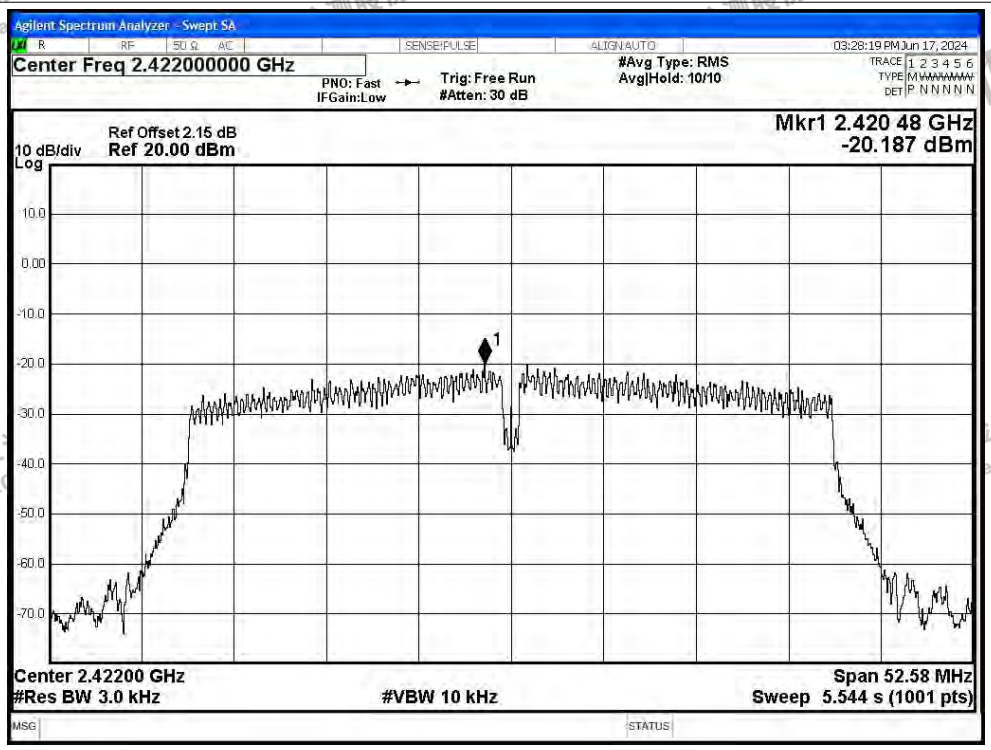
PSD NVNT ax20 2437MHz Ant4



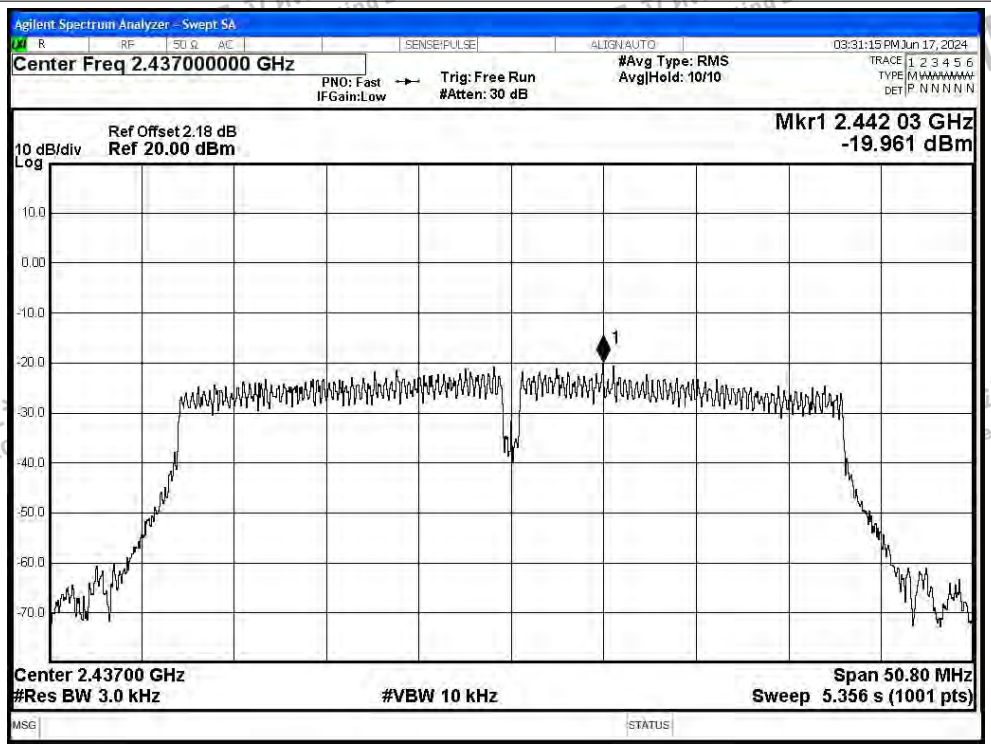
PSD NVNT ax20 2462MHz Ant4



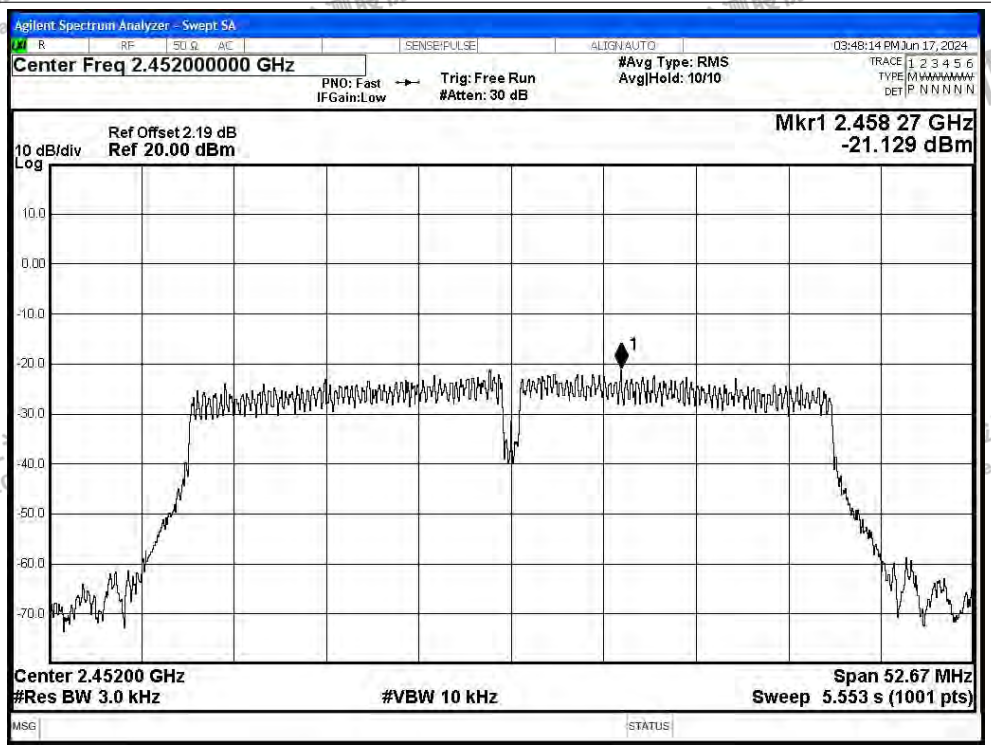
PSD NVNT ax40 2422MHz Ant4



PSD NVNT ax40 2437MHz Ant4



PSD NVNT ax40 2452MHz Ant4



C.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant2	-41.68	-20	Pass
NVNT	b	2462	Ant2	-51.85	-20	Pass
NVNT	g	2412	Ant2	-33.93	-20	Pass
NVNT	g	2462	Ant2	-41	-20	Pass
NVNT	n20	2412	Ant2	-33.77	-20	Pass
NVNT	n20	2462	Ant2	-46.48	-20	Pass
NVNT	n40	2422	Ant2	-32.21	-20	Pass
NVNT	n40	2452	Ant2	-34.27	-20	Pass
NVNT	ax20	2412	Ant2	-34.65	-20	Pass
NVNT	ax20	2462	Ant2	-42.46	-20	Pass
NVNT	ax40	2422	Ant2	-33.81	-20	Pass
NVNT	ax40	2452	Ant2	-34.34	-20	Pass

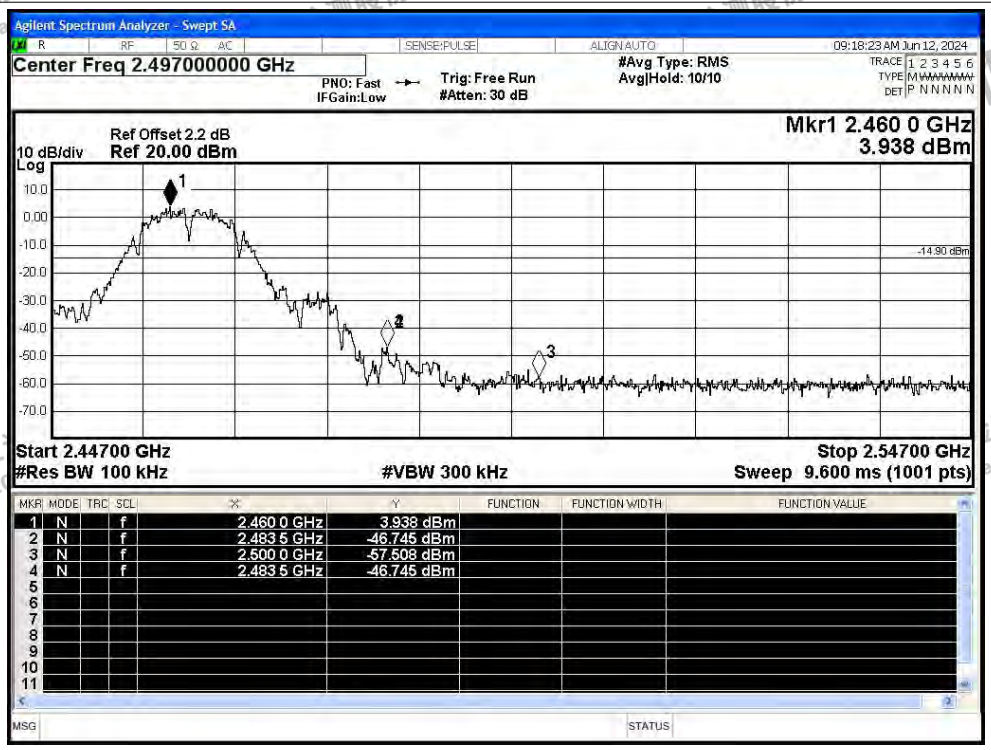
Test Graphs

Band Edge NVNT b 2412MHz Ant2 Ref

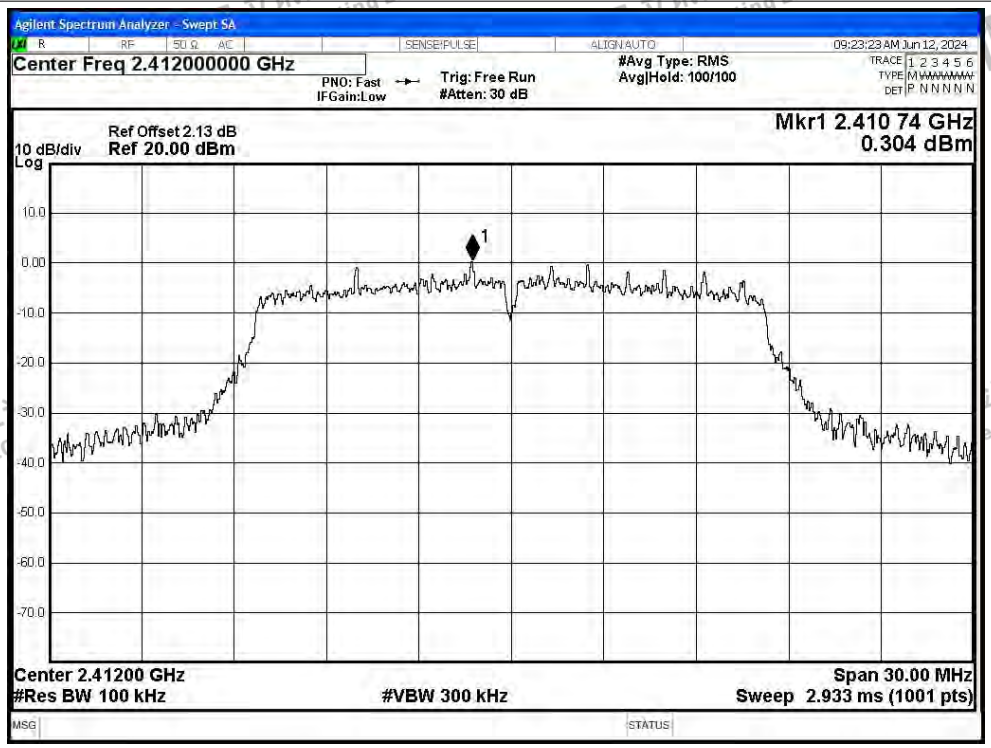
Band Edge NVNT b 2412MHz Ant2 Emission

Band Edge NVNT b 2462MHz Ant2 Ref

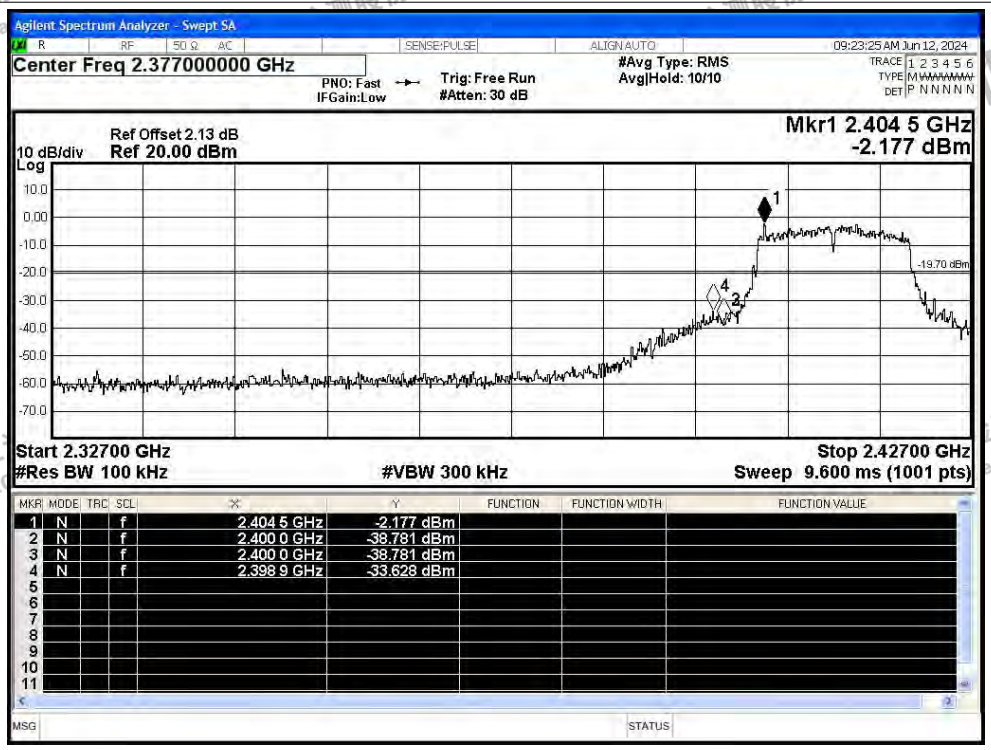
Band Edge NVNT b 2462MHz Ant2 Emission



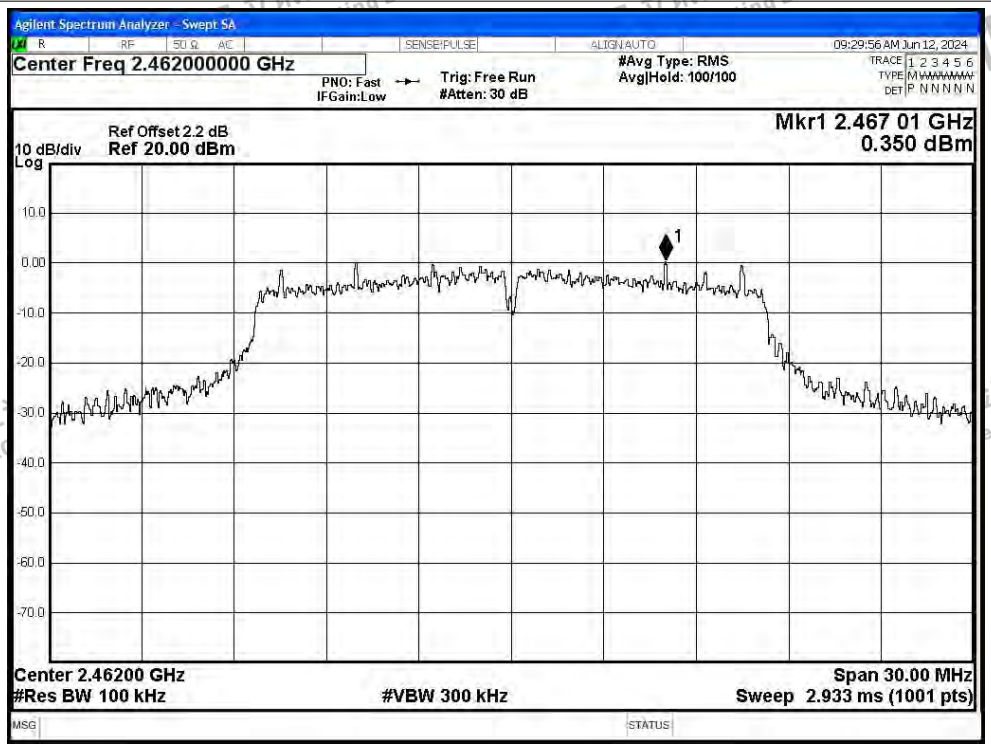
Band Edge NVNT g 2412MHz Ant2 Ref



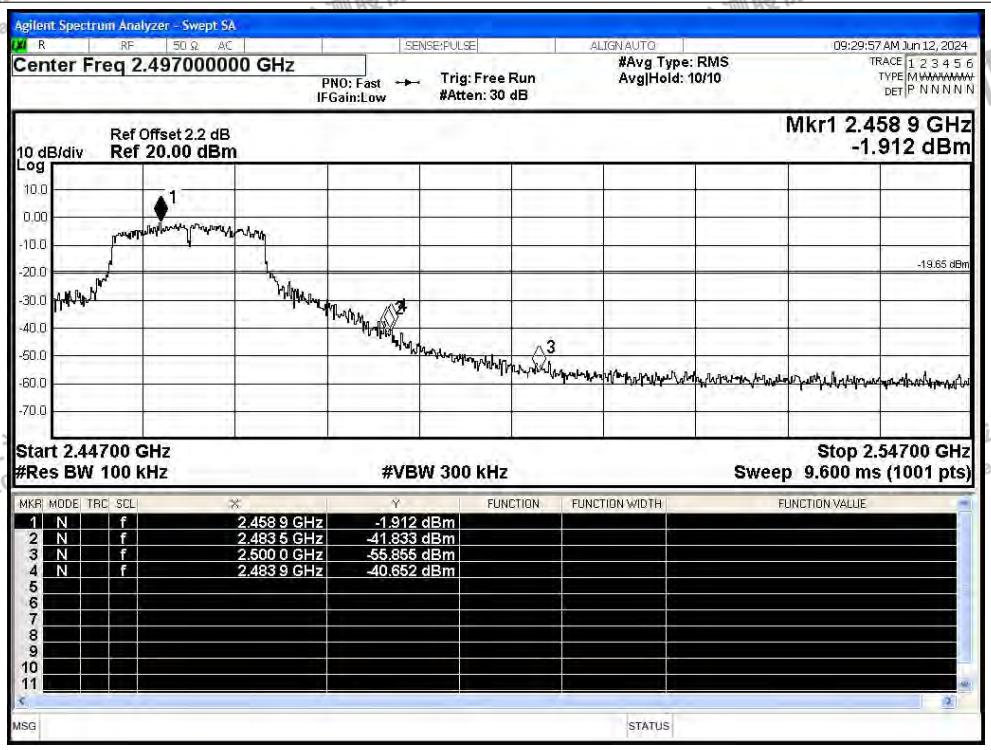
Band Edge NVNT g 2412MHz Ant2 Emission



Band Edge NVNT g 2462MHz Ant2 Ref



Band Edge NVNT g 2462MHz Ant2 Emission



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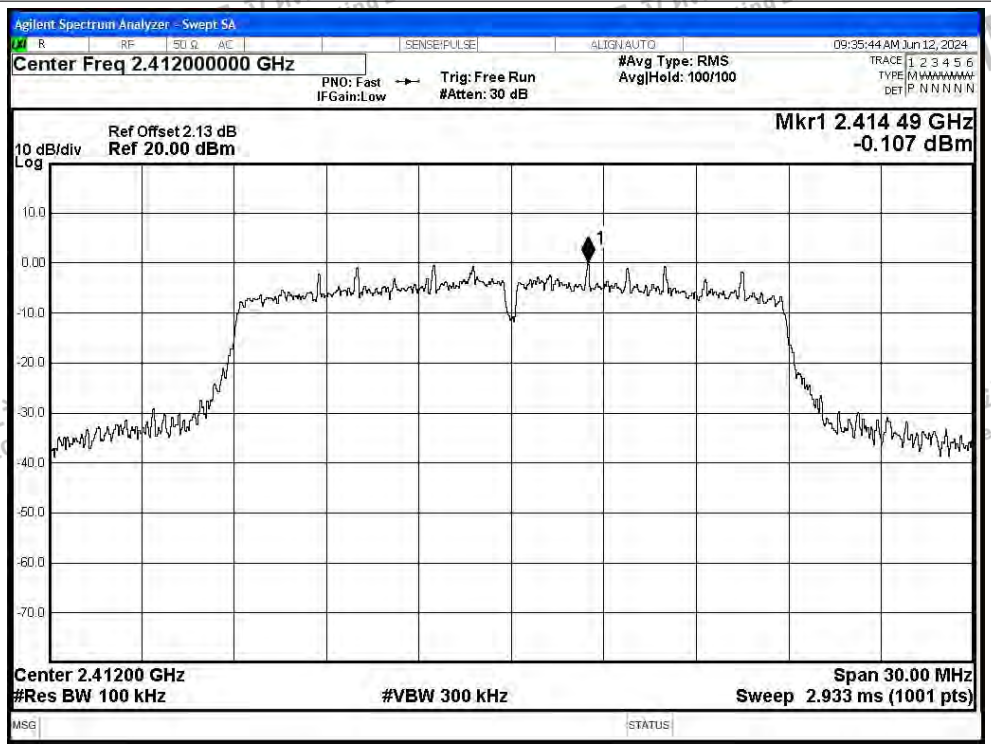
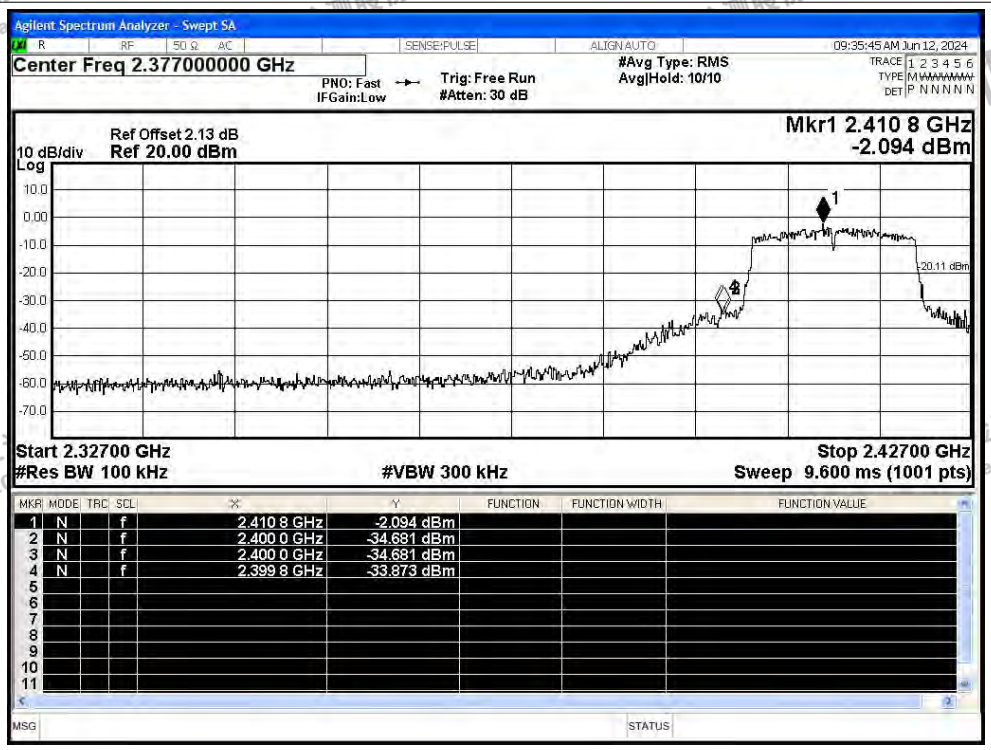
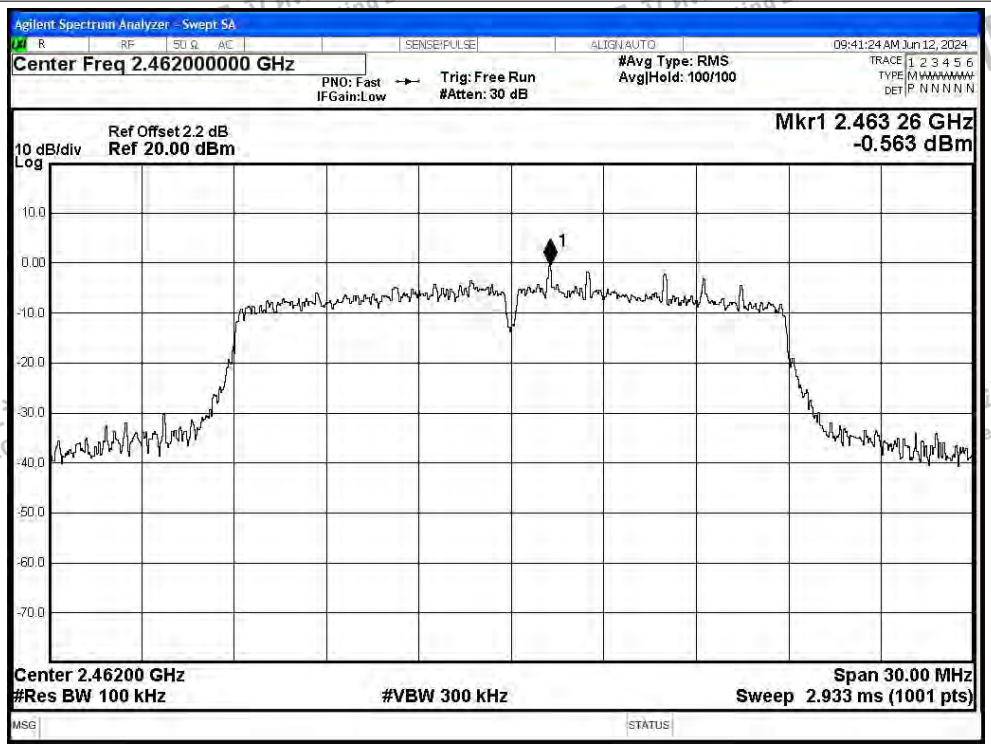
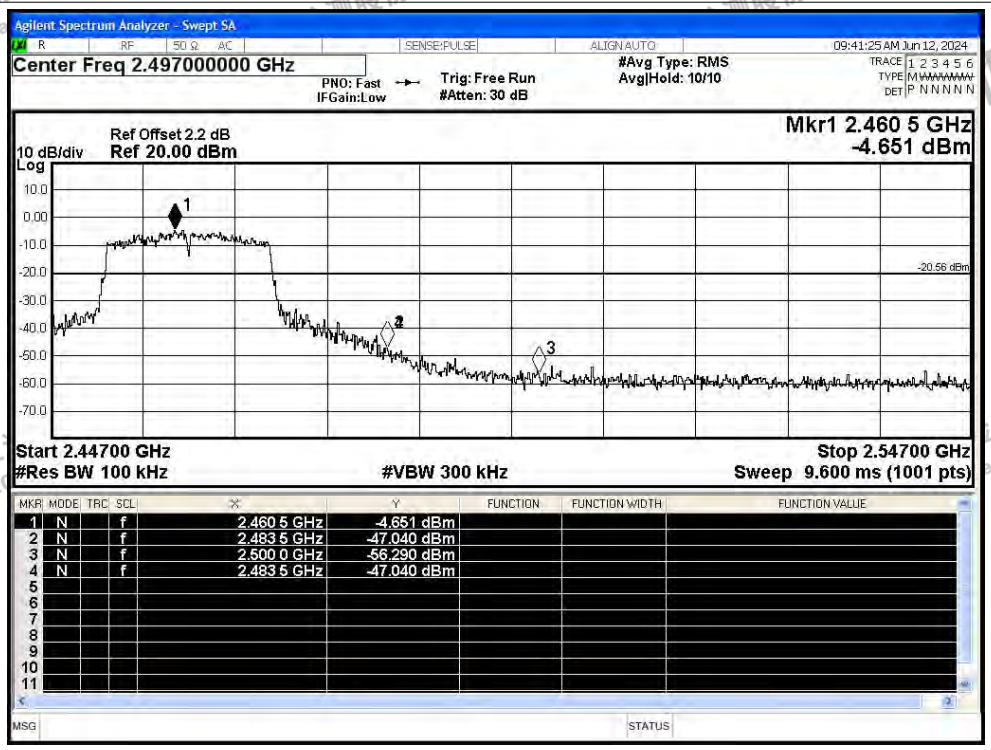


Band Edge NVNT n20 2412MHz Ant2 Emission



Band Edge NVNT n20 2462MHz Ant2 Ref



Band Edge NVNT n20 2462MHz Ant2 Emission