



Appendix B for 5.8GWIFI Test Data

Product Name: AI box

Test Model: A3528

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52%
ATM Pressure:	101.0 kPa
Test Engineer:	Kevin Yang
Supervised by:	Baret Wu





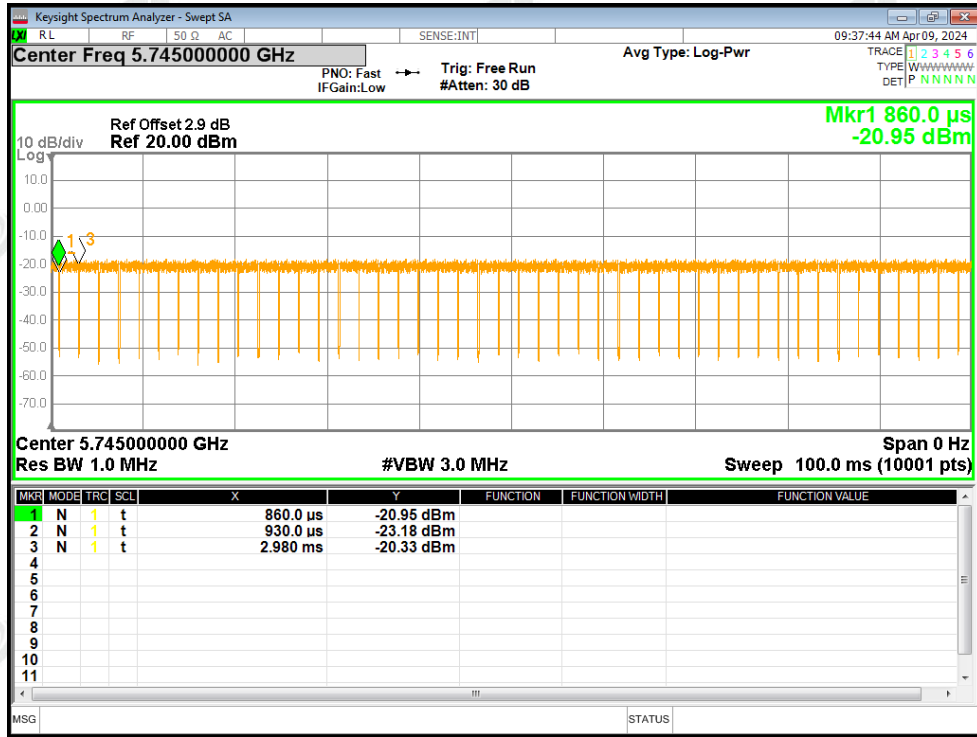
B1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	96.7	0.15	0.49
NVNT	a	5785	Ant1	97.63	0.1	0.49
NVNT	a	5825	Ant1	91.96	0.36	0.49
NVNT	n20	5745	Ant1	95.5	0.2	0.52
NVNT	n20	5785	Ant1	95.98	0.18	0.52
NVNT	n20	5825	Ant1	95.5	0.2	0.52
NVNT	n40	5755	Ant1	88.35	0.54	1.1
NVNT	n40	5795	Ant1	85.05	0.7	1.1
NVNT	ac20	5745	Ant1	95.52	0.2	0.52
NVNT	ac20	5785	Ant1	91	0.41	0.52
NVNT	ac20	5825	Ant1	91.87	0.37	0.52
NVNT	ac40	5755	Ant1	84.91	0.71	2.22
NVNT	ac40	5795	Ant1	81.25	0.9	1.1

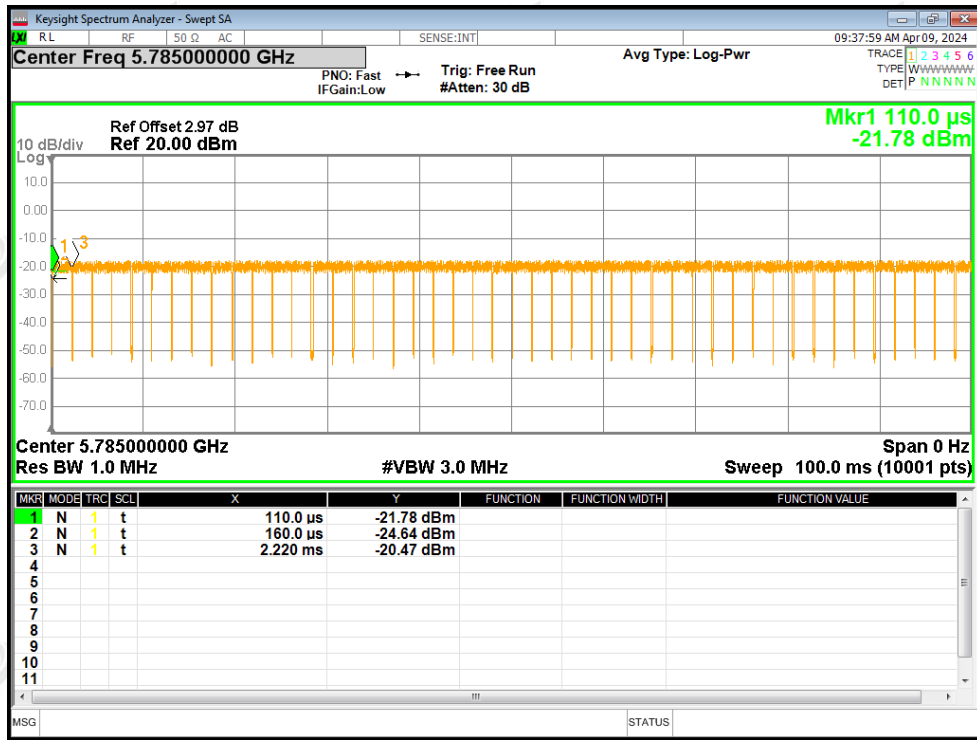


Test Graphs

Duty Cycle NVNT a 5745MHz Ant1

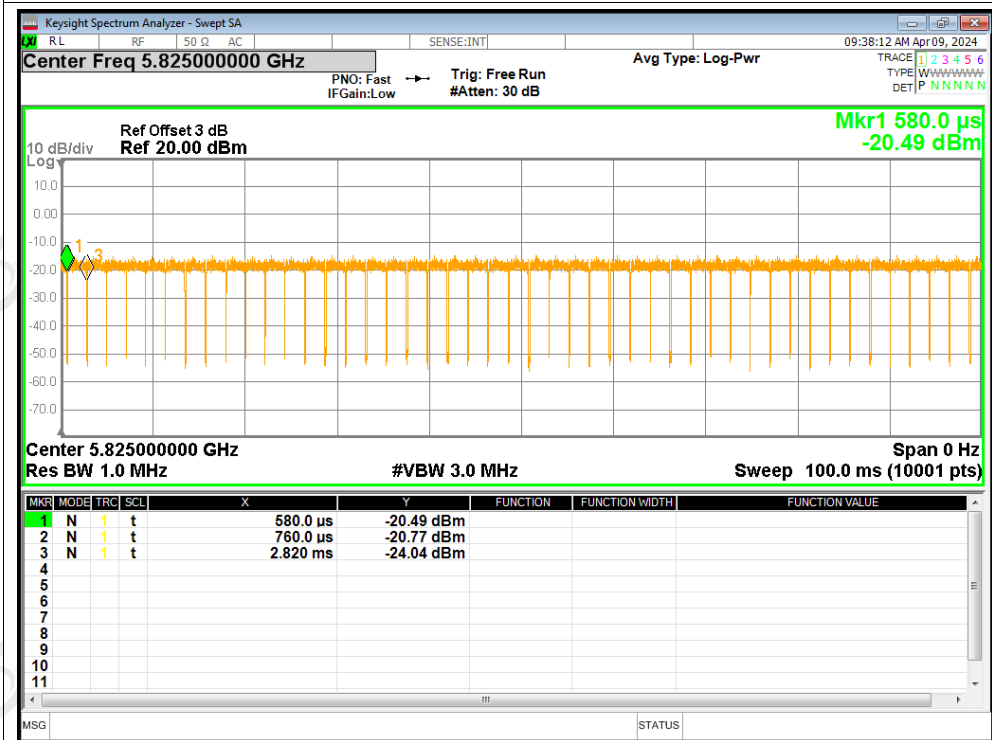


Duty Cycle NVNT a 5785MHz Ant1

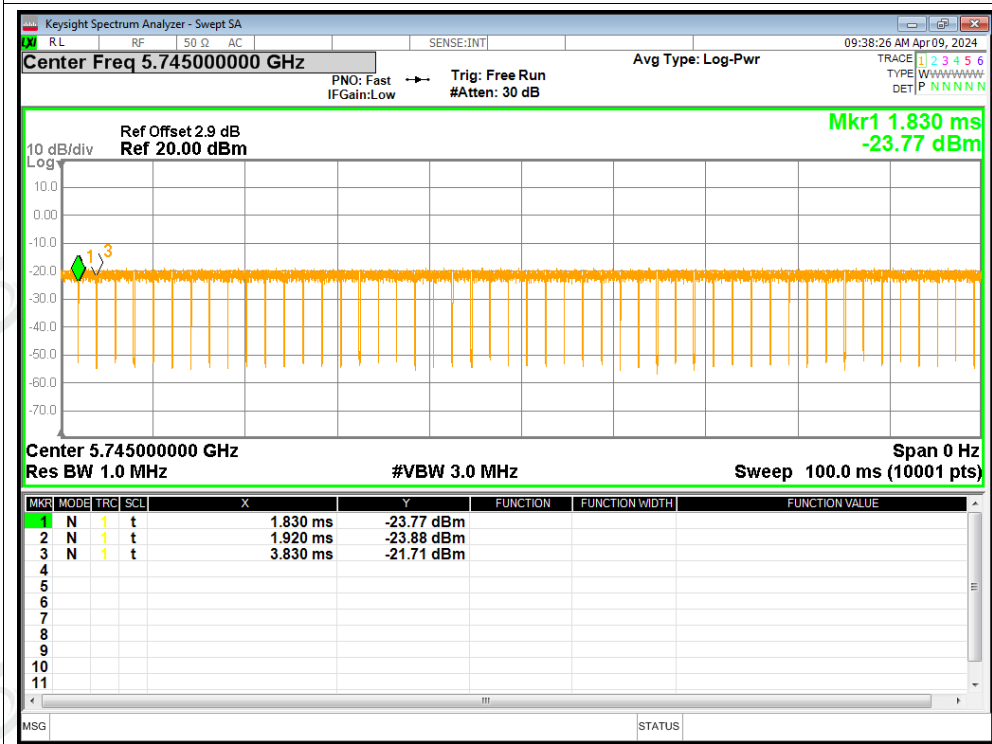




Duty Cycle NVNT a 5825MHz Ant1

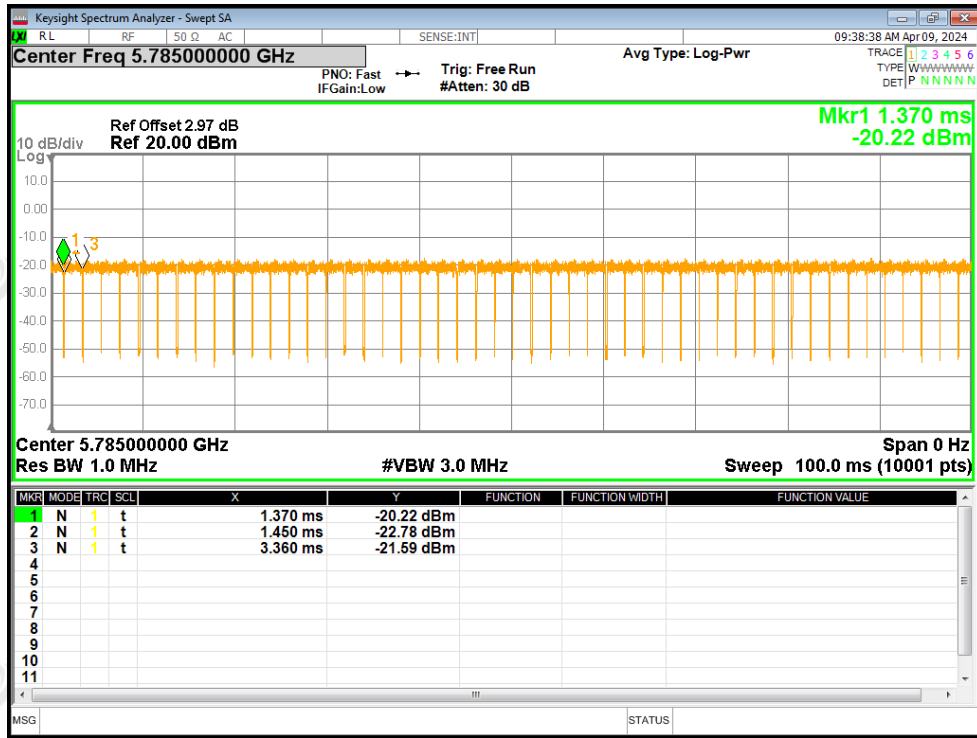


Duty Cycle NVNT n20 5745MHz Ant1

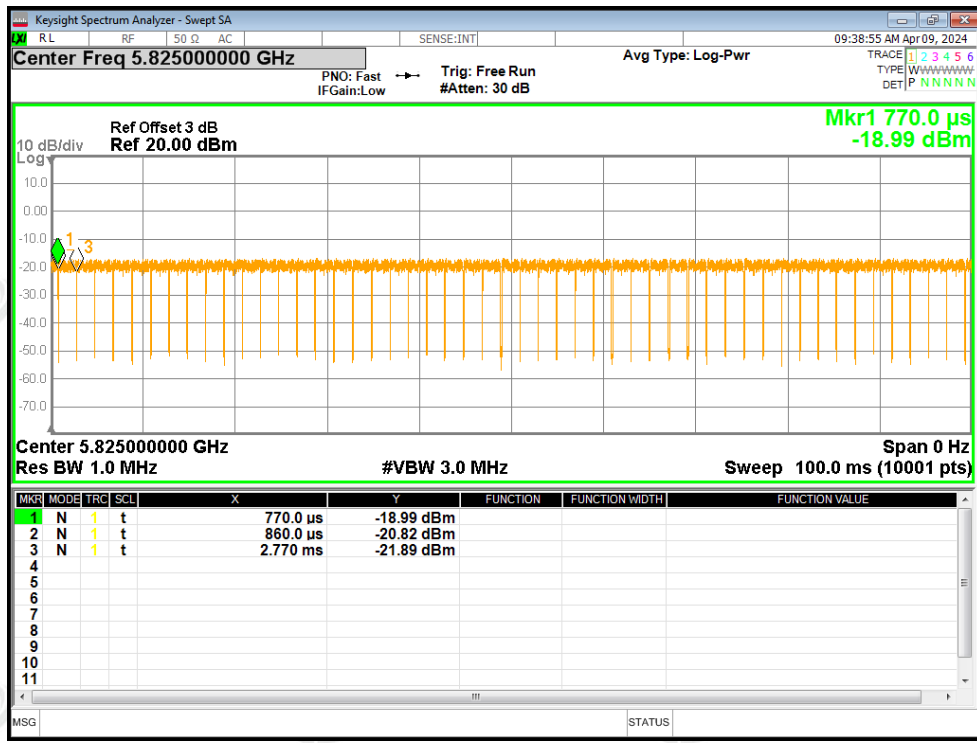




Duty Cycle NVNT n20 5785MHz Ant1

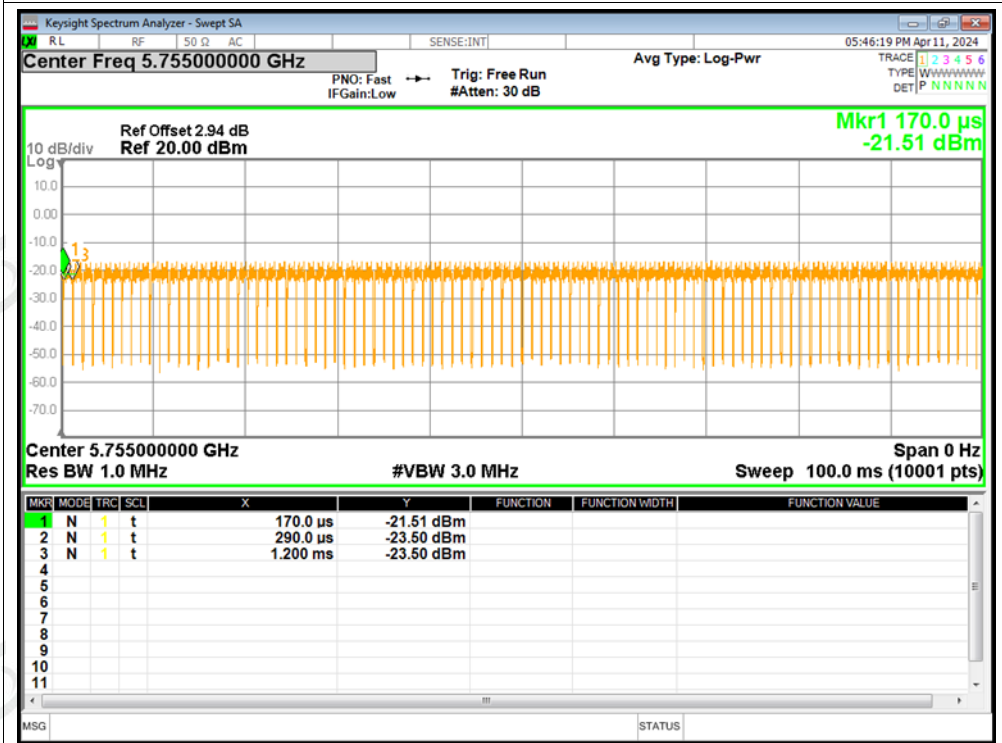


Duty Cycle NVNT n20 5825MHz Ant1

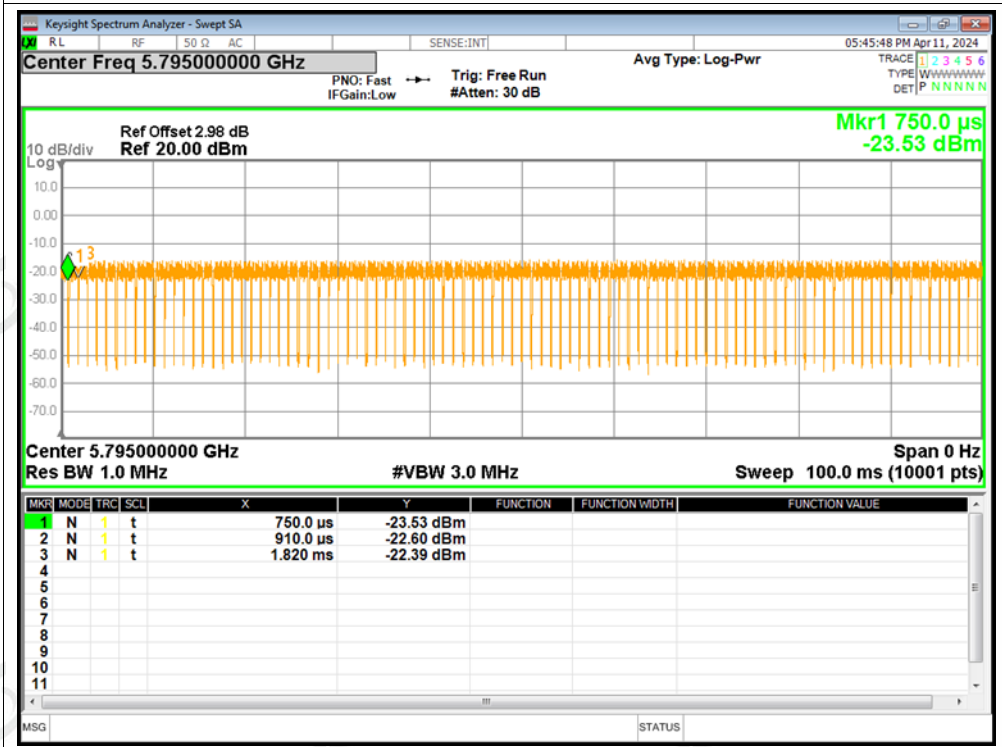




Duty Cycle NVNT n40 5755MHz Ant1

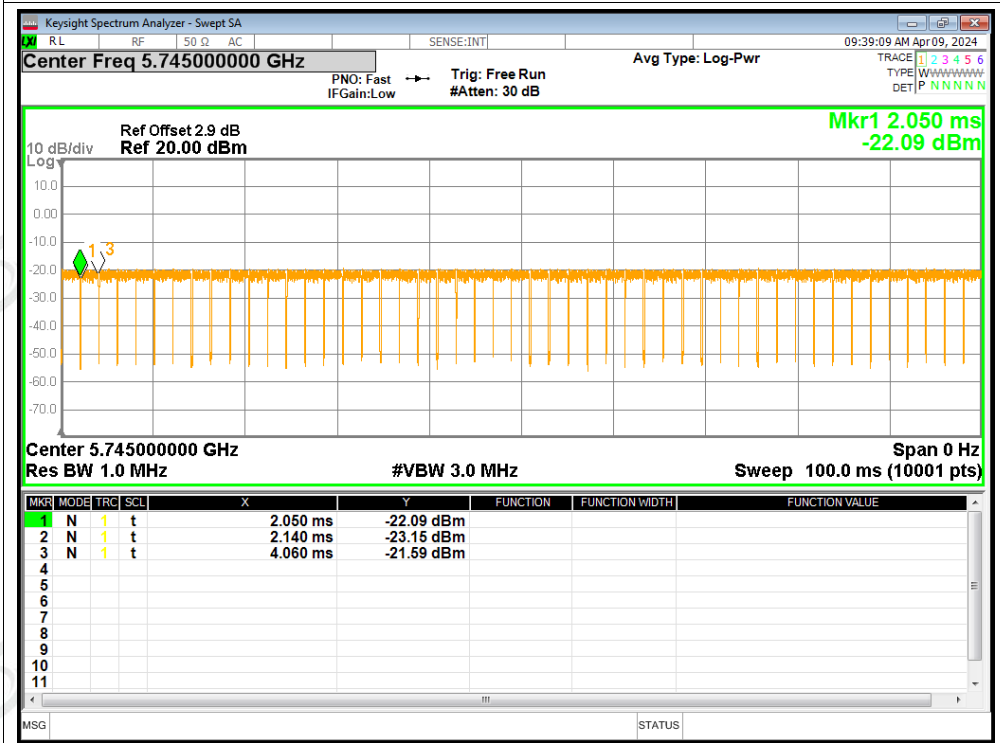


Duty Cycle NVNT n40 5795MHz Ant1

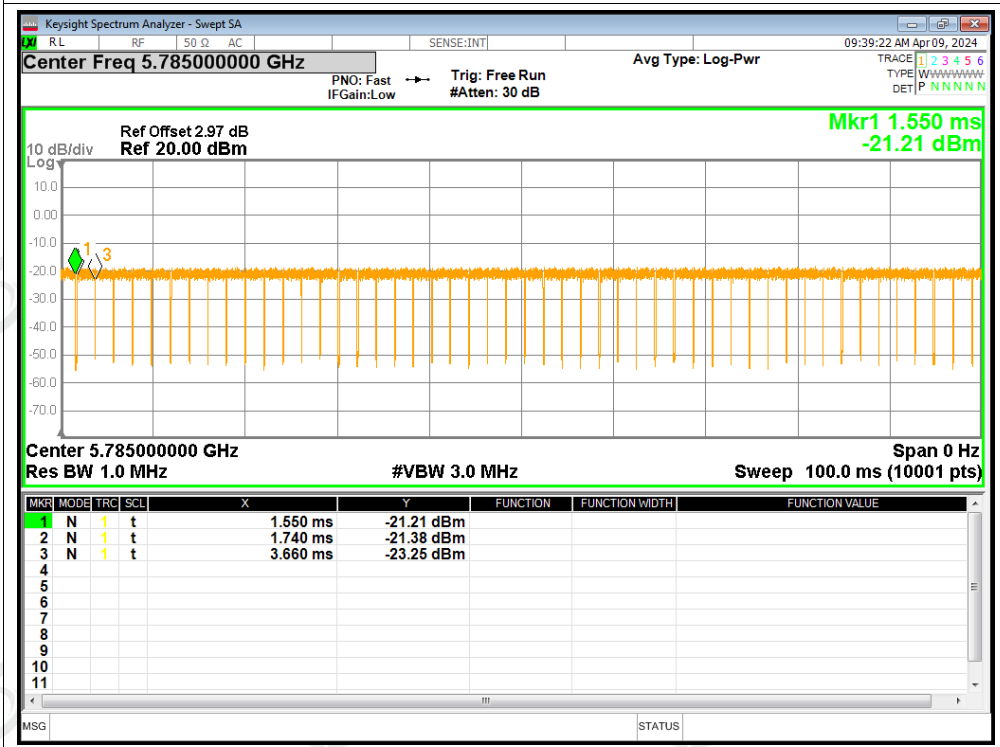




Duty Cycle NVNT ac20 5745MHz Ant1

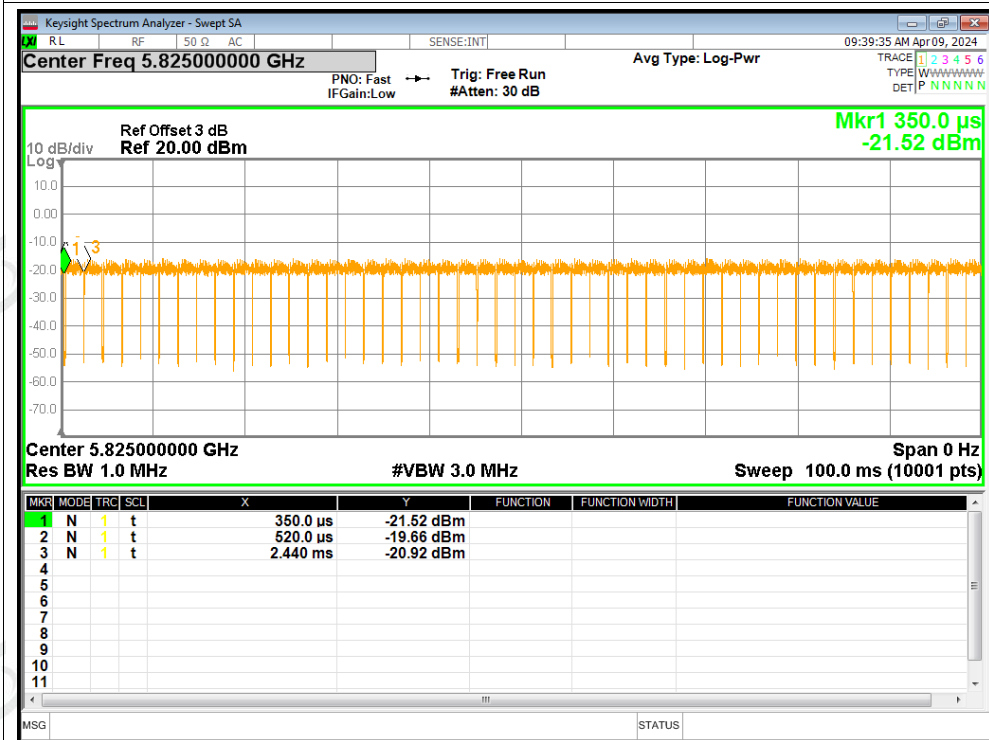


Duty Cycle NVNT ac20 5785MHz Ant1

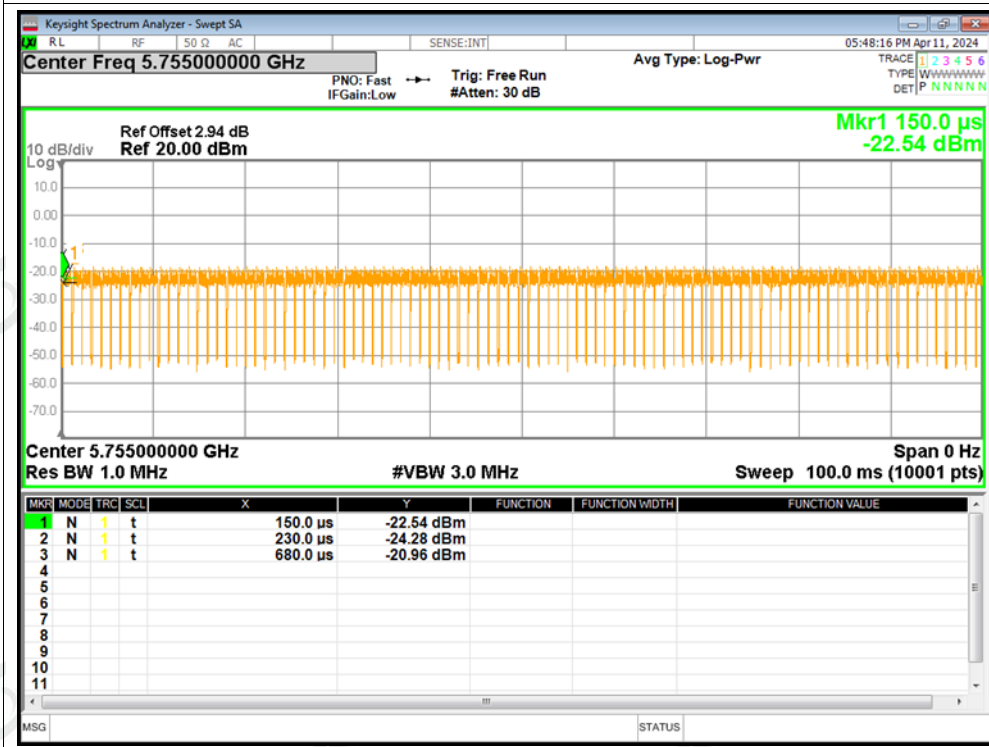


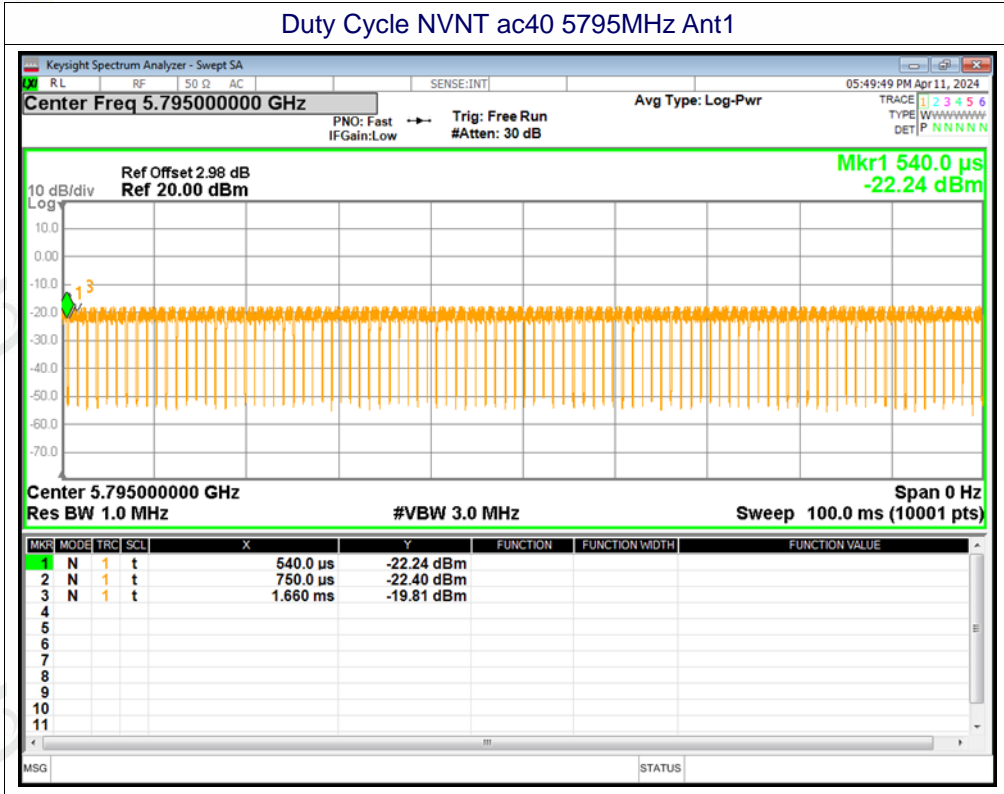


Duty Cycle NVNT ac20 5825MHz Ant1



Duty Cycle NVNT ac40 5755MHz Ant1





**ZHONGHAN****B2. Maximum Conducted Output Power**

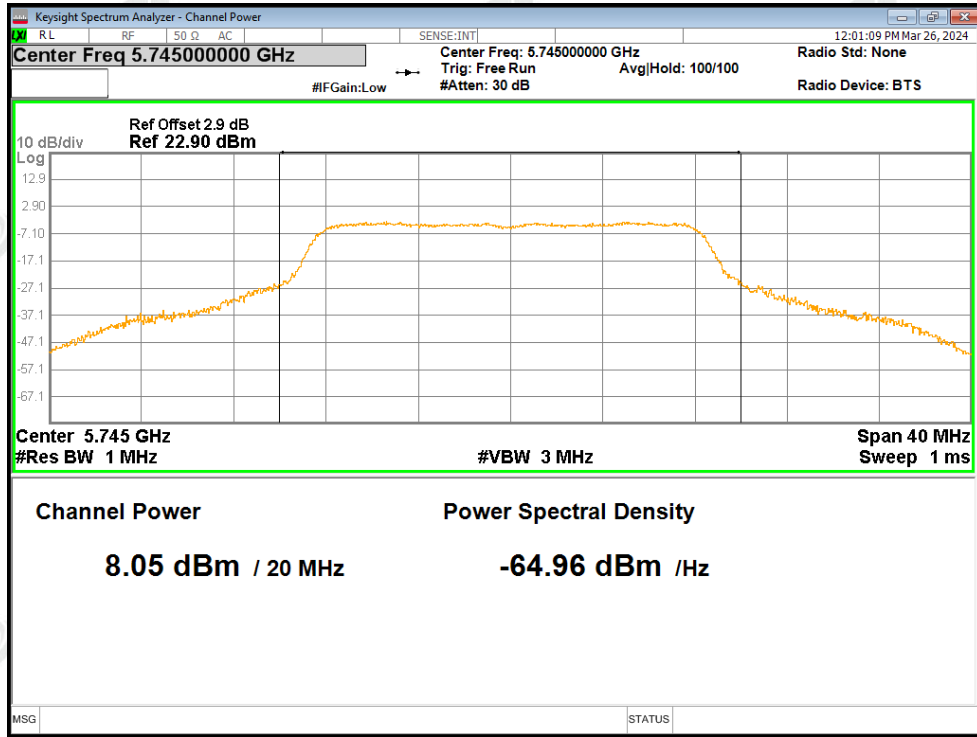
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	8.76	30	Pass
NVNT	a	5785	Ant1	8.61	30	Pass
NVNT	a	5825	Ant1	7.59	30	Pass
NVNT	n20	5745	Ant1	8.61	30	Pass
NVNT	n20	5785	Ant1	8.36	30	Pass
NVNT	n20	5825	Ant1	7.51	30	Pass
NVNT	n40	5755	Ant1	8.38	30	Pass
NVNT	n40	5795	Ant1	8.34	30	Pass
NVNT	ac20	5745	Ant1	8.57	30	Pass
NVNT	ac20	5785	Ant1	8.52	30	Pass
NVNT	ac20	5825	Ant1	7.63	30	Pass
NVNT	ac40	5755	Ant1	8.23	30	Pass
NVNT	ac40	5795	Ant1	8.53	30	Pass



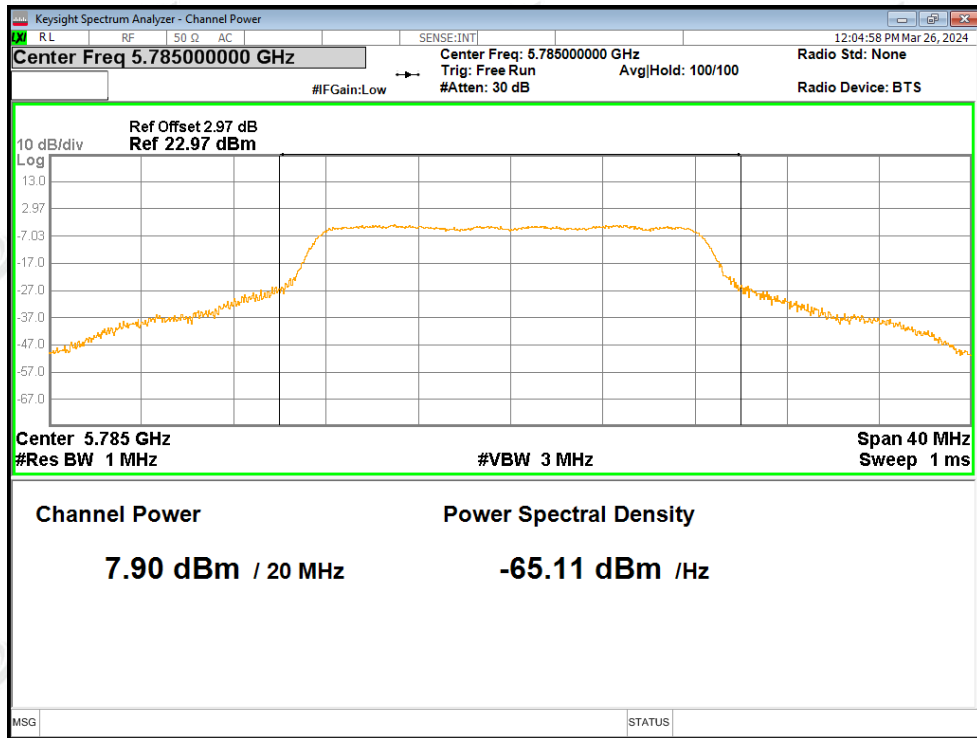


Test Graphs

Power NVNT a 5745MHz Ant1

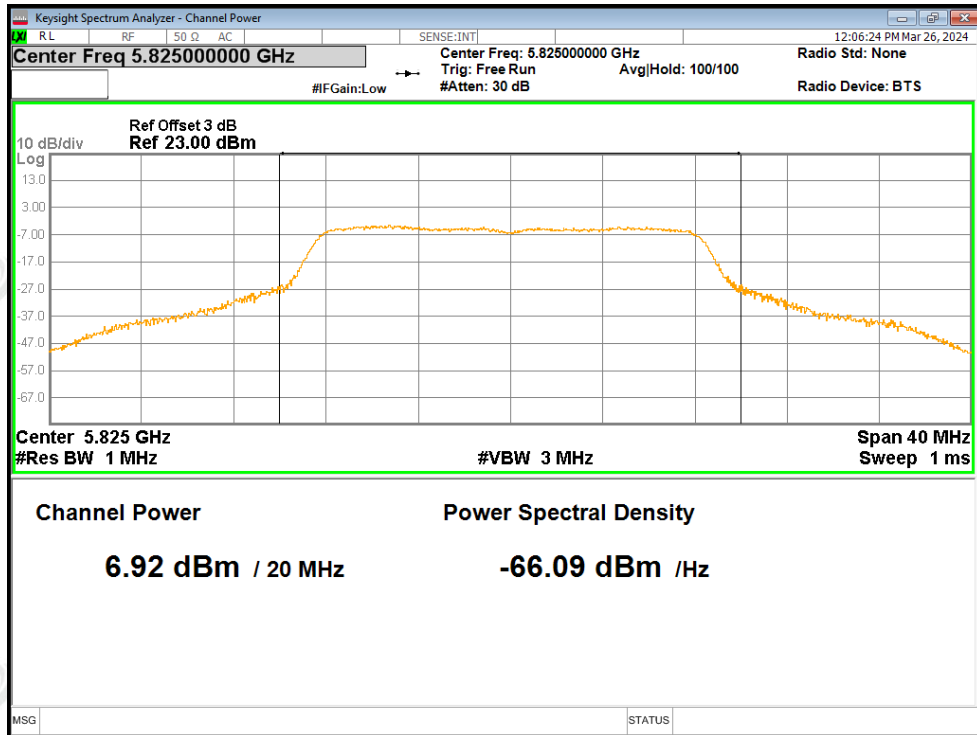


Power NVNT a 5785MHz Ant1

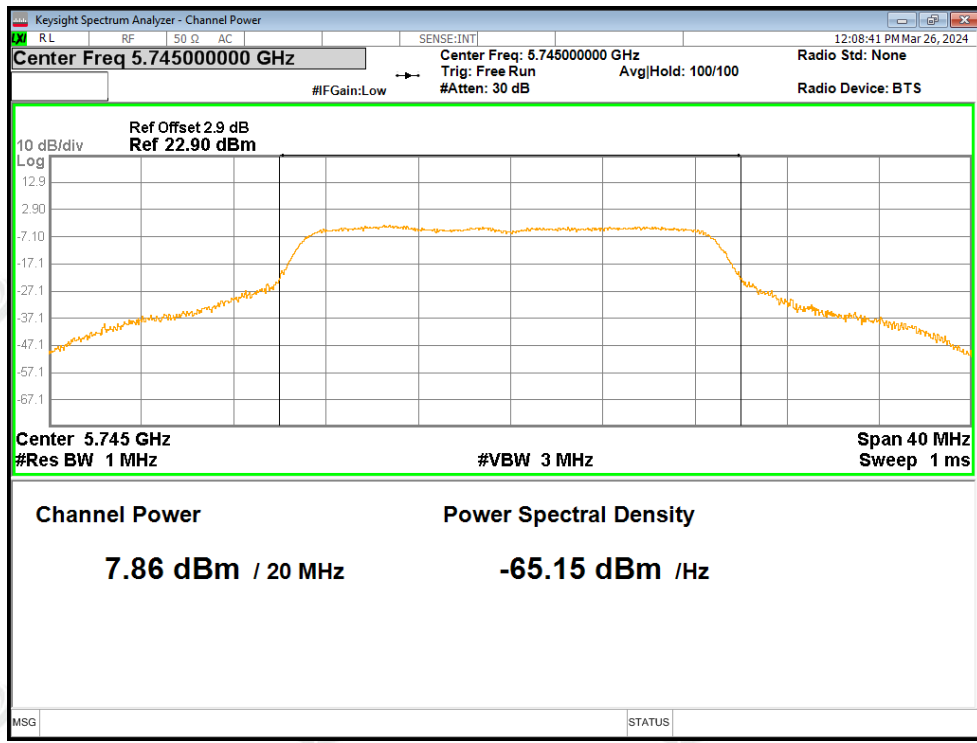




Power NVNT a 5825MHz Ant1

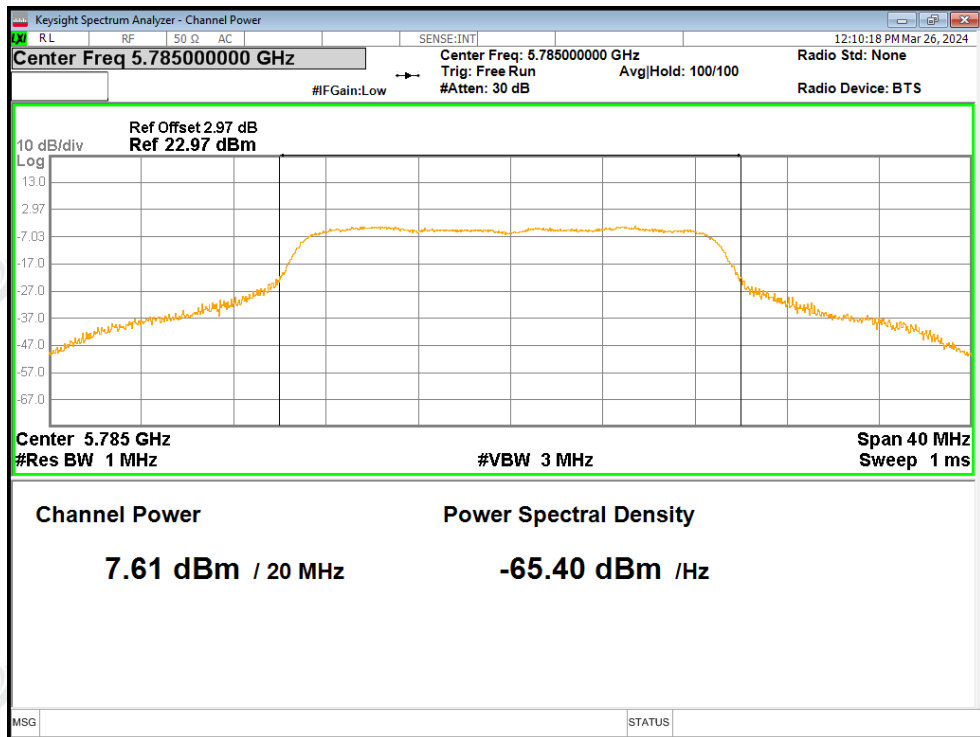


Power NVNT n20 5745MHz Ant1

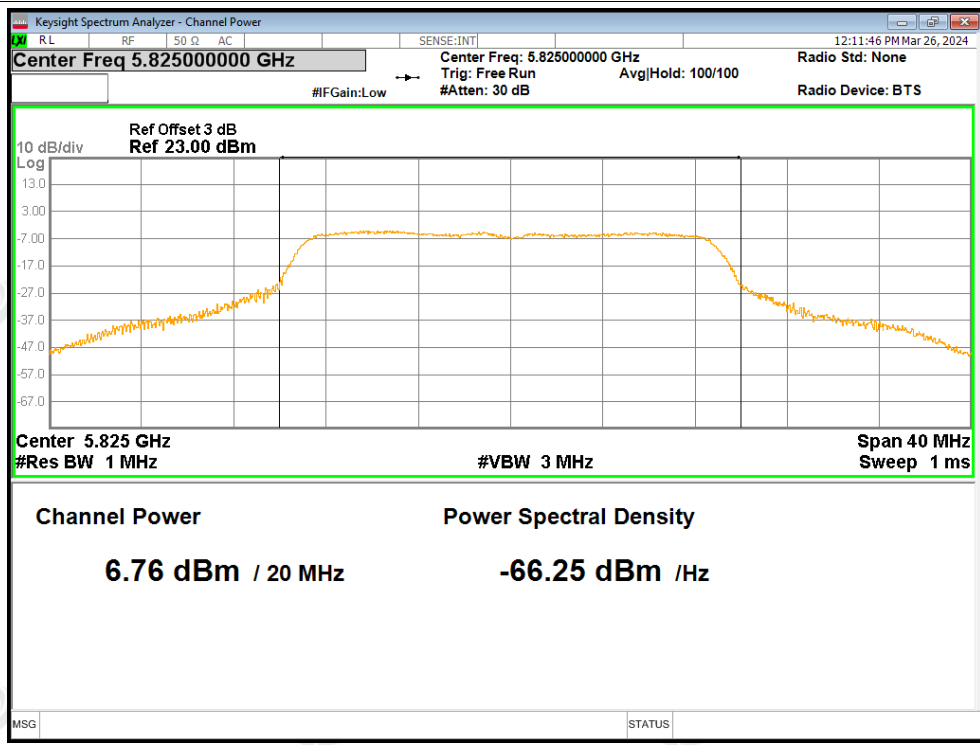




Power NVNT n20 5785MHz Ant1

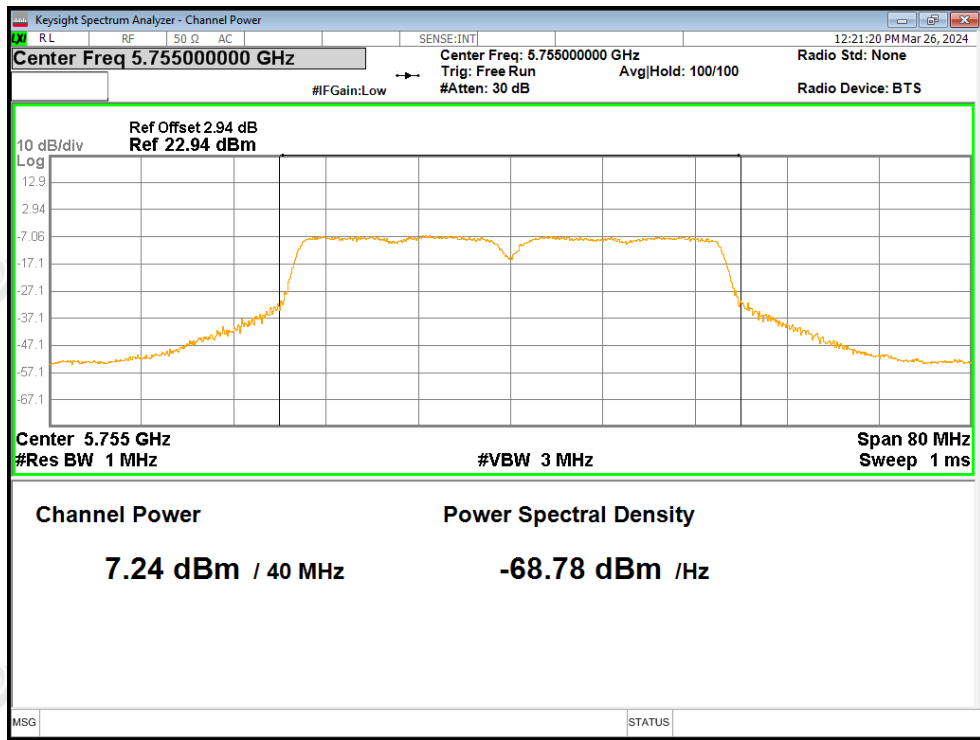


Power NVNT n20 5825MHz Ant1

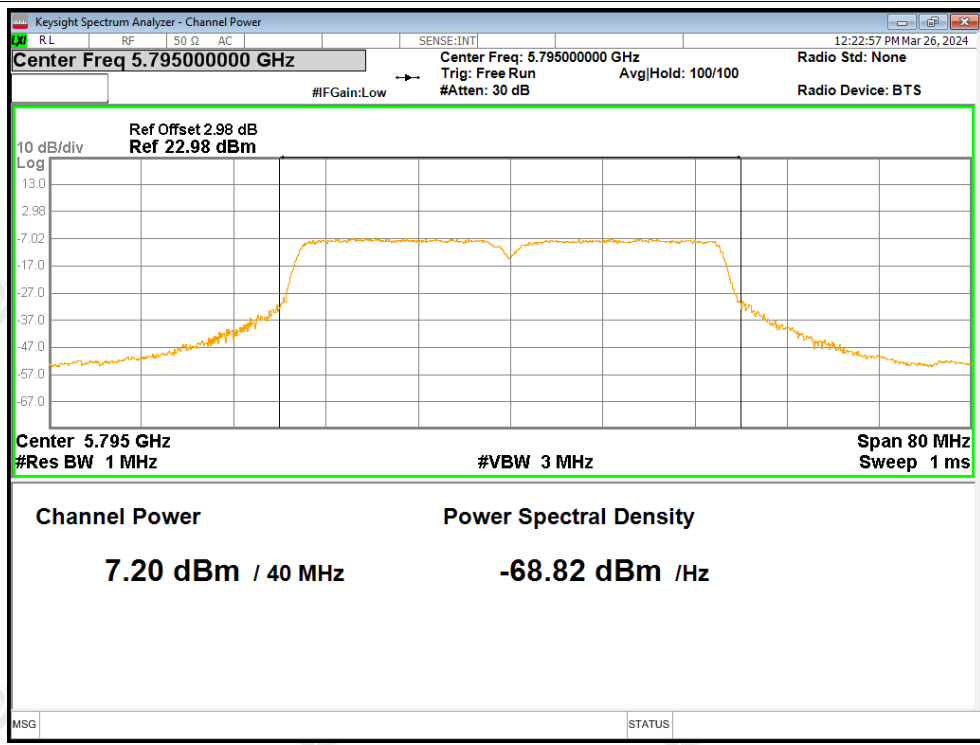




Power NVNT n40 5755MHz Ant1

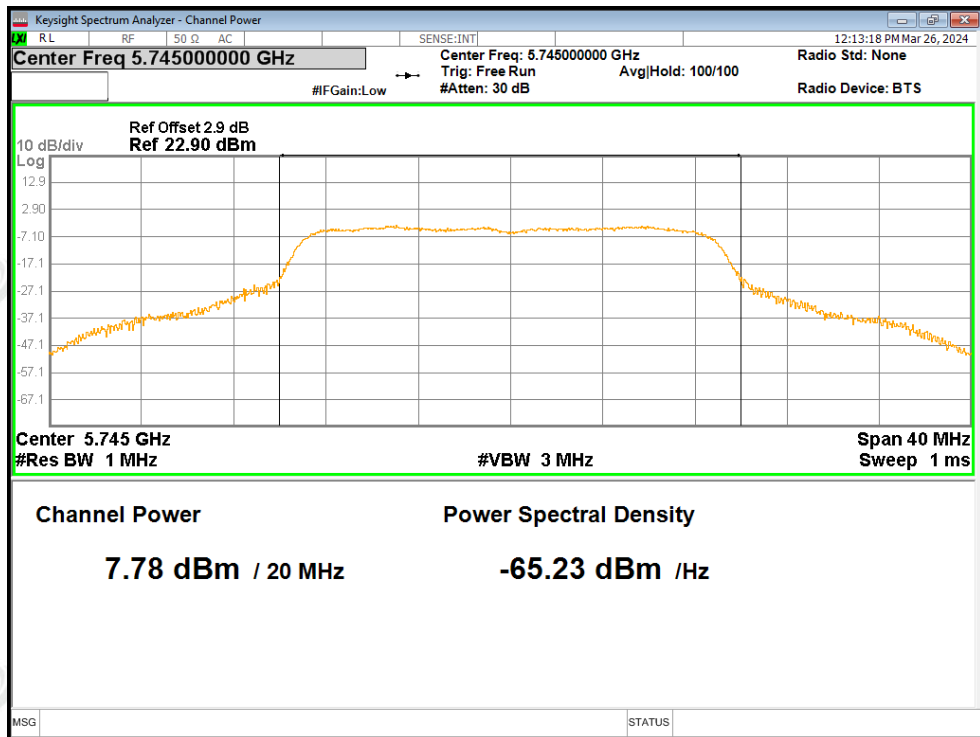


Power NVNT n40 5795MHz Ant1

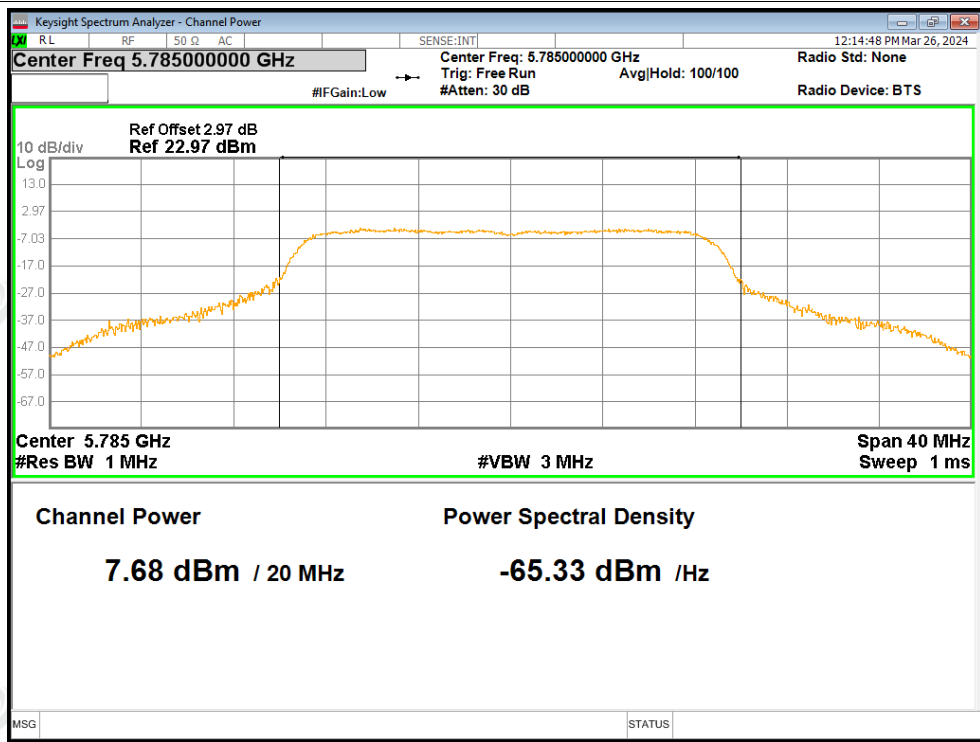




Power NVNT ac20 5745MHz Ant1

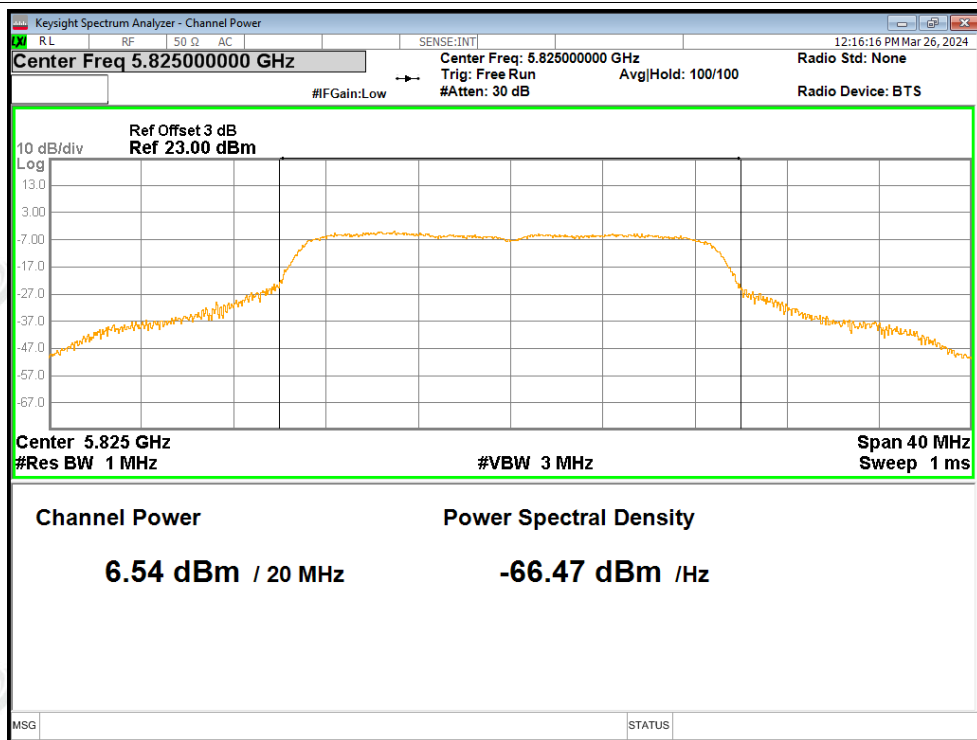


Power NVNT ac20 5785MHz Ant1

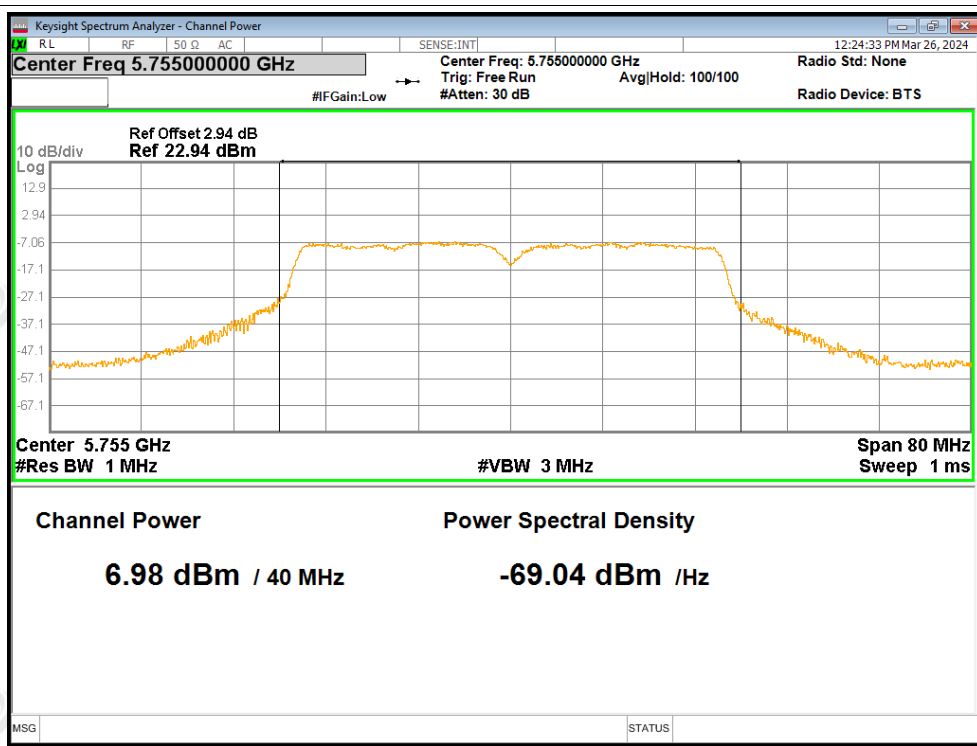


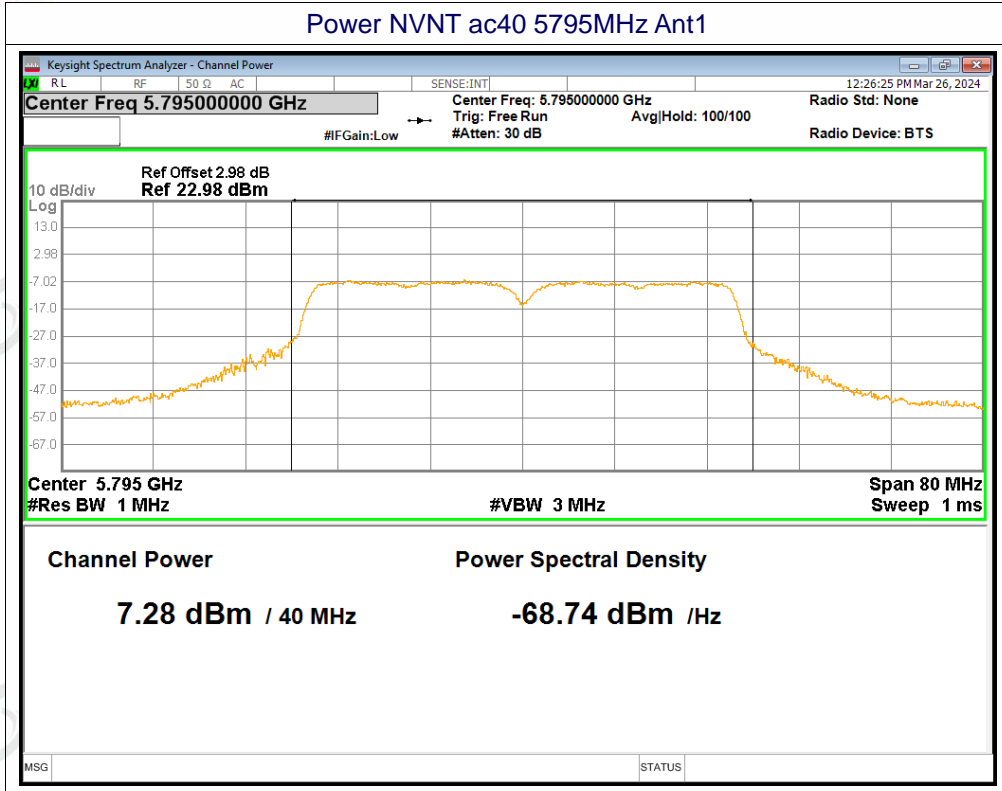


Power NVNT ac20 5825MHz Ant1



Power NVNT ac40 5755MHz Ant1







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B3. -6dB Bandwidth

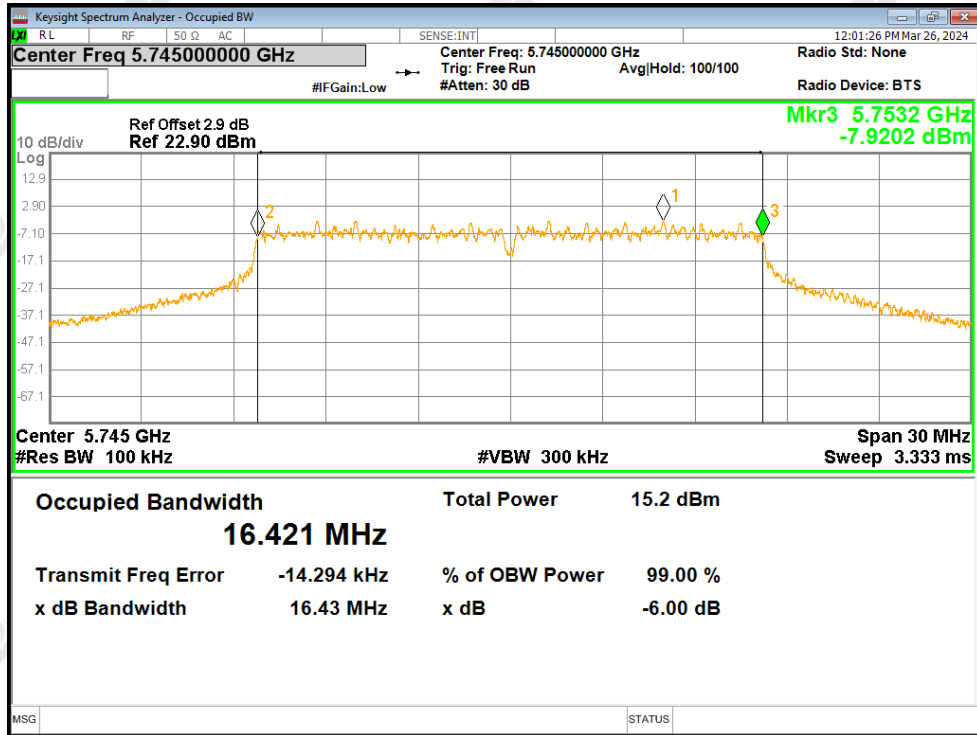
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.428	0.5	Pass
NVNT	a	5785	Ant1	16.454	0.5	Pass
NVNT	a	5825	Ant1	16.382	0.5	Pass
NVNT	n20	5745	Ant1	17.661	0.5	Pass
NVNT	n20	5785	Ant1	17.714	0.5	Pass
NVNT	n20	5825	Ant1	17.64	0.5	Pass
NVNT	n40	5755	Ant1	36.363	0.5	Pass
NVNT	n40	5795	Ant1	36.413	0.5	Pass
NVNT	ac20	5745	Ant1	17.656	0.5	Pass
NVNT	ac20	5785	Ant1	17.642	0.5	Pass
NVNT	ac20	5825	Ant1	17.672	0.5	Pass
NVNT	ac40	5755	Ant1	36.43	0.5	Pass
NVNT	ac40	5795	Ant1	36.349	0.5	Pass



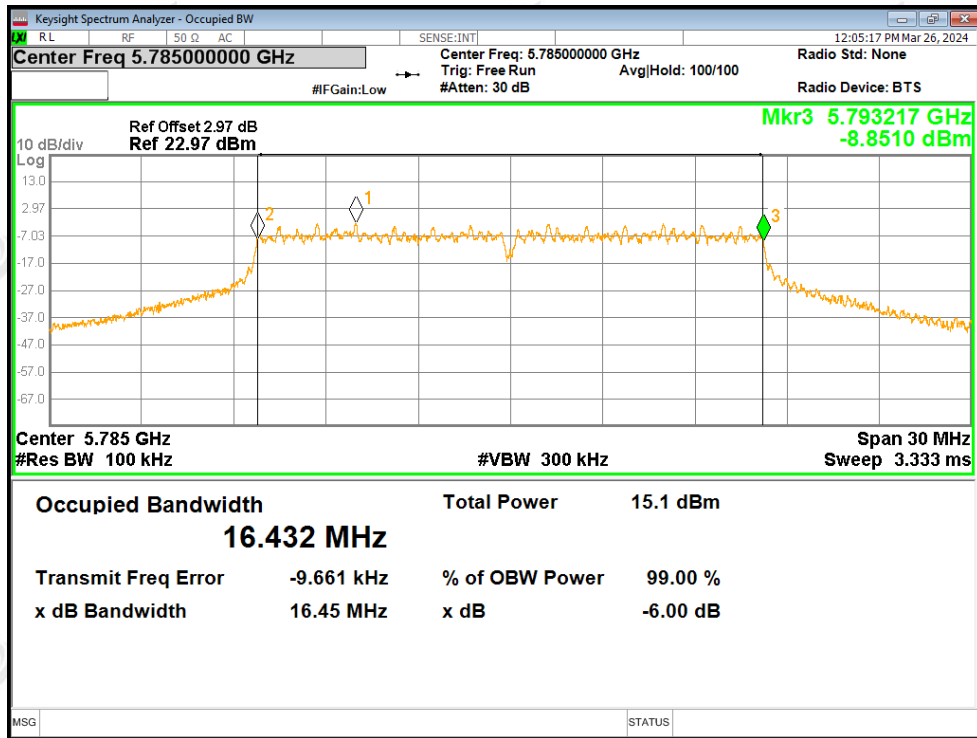


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1



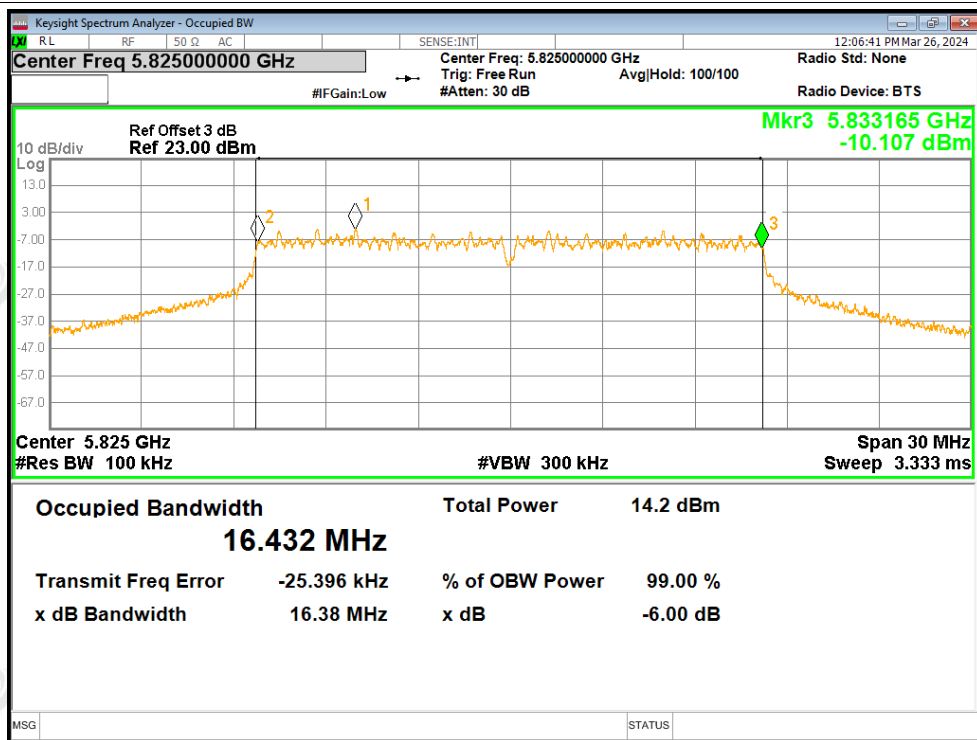
-6dB Bandwidth NVNT a 5785MHz Ant1



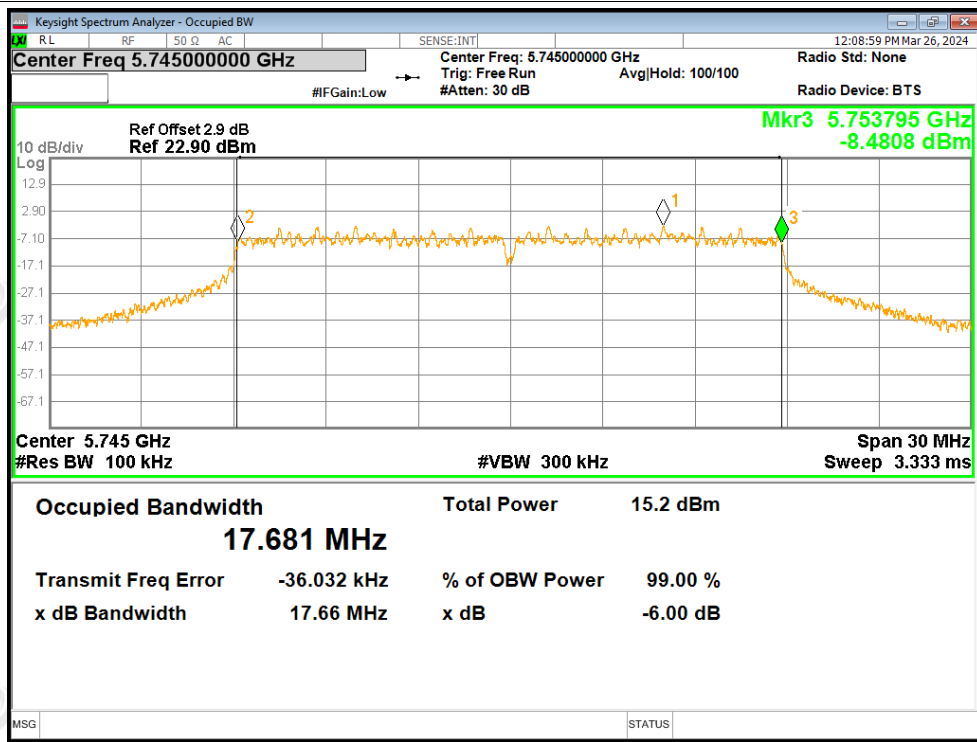


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-6dB Bandwidth NVNT a 5825MHz Ant1

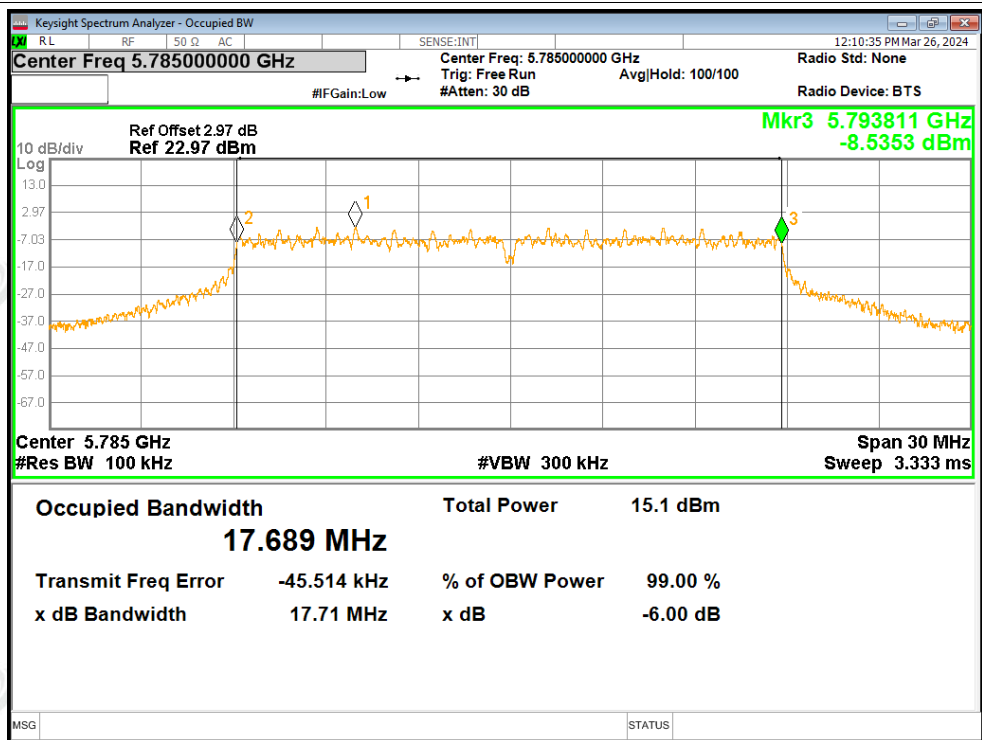


-6dB Bandwidth NVNT n20 5745MHz Ant1

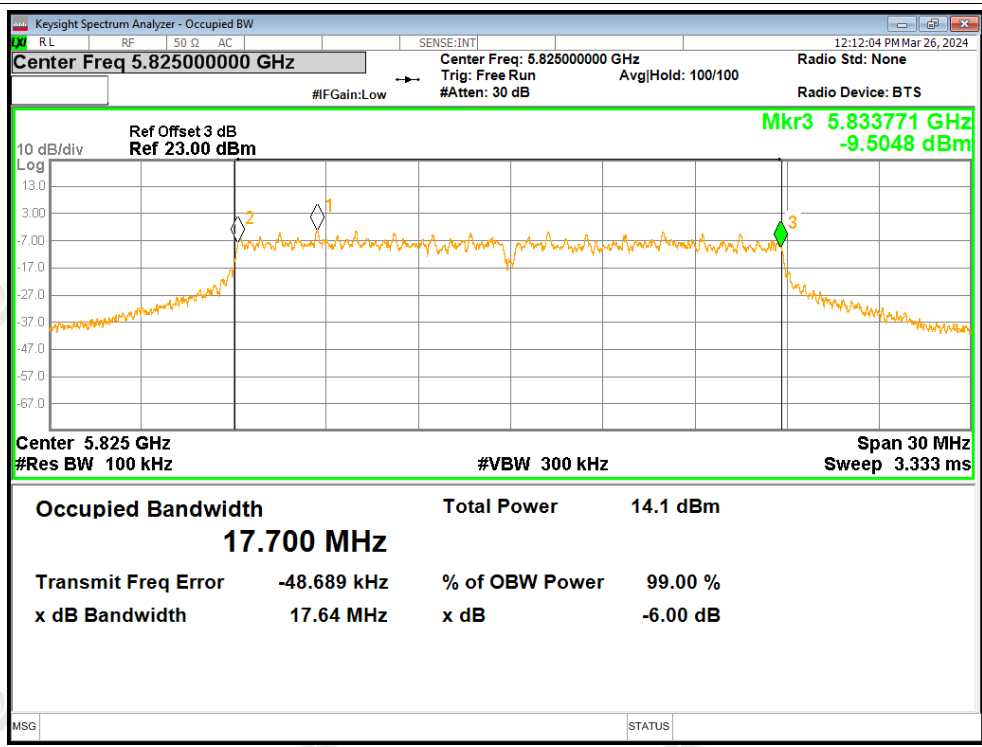




-6dB Bandwidth NVNT n20 5785MHz Ant1

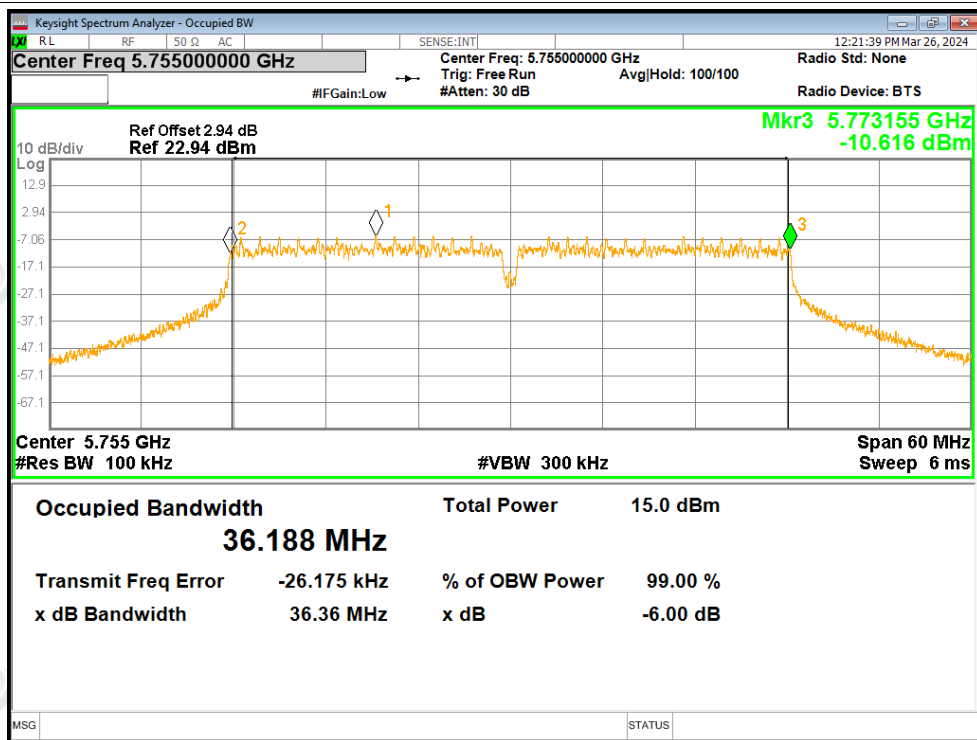


-6dB Bandwidth NVNT n20 5825MHz Ant1

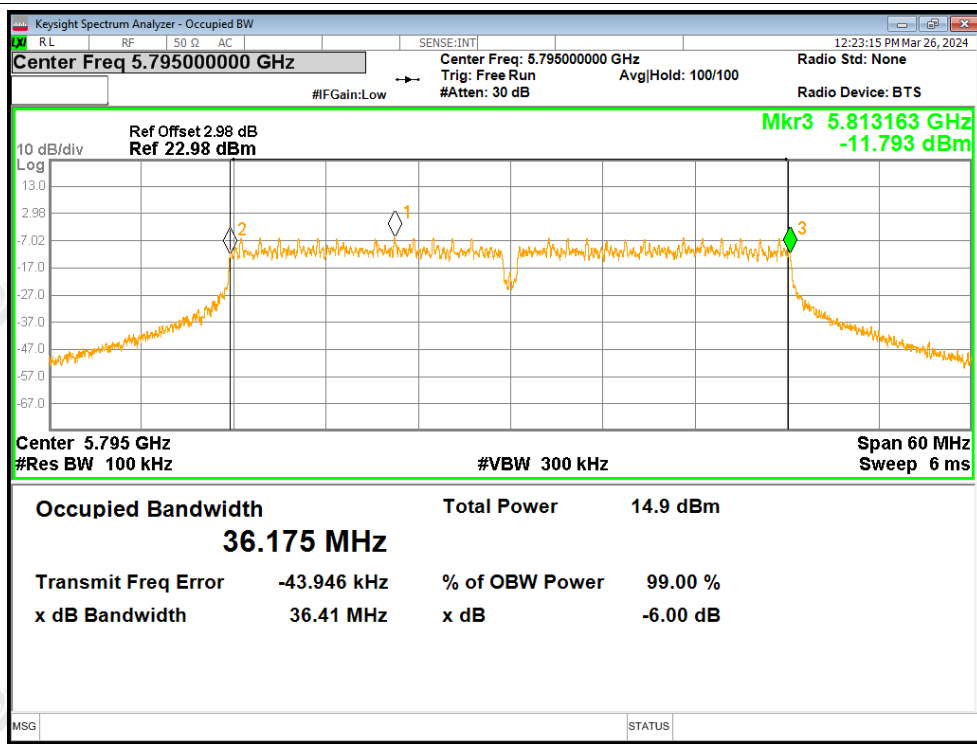




-6dB Bandwidth NVNT n40 5755MHz Ant1



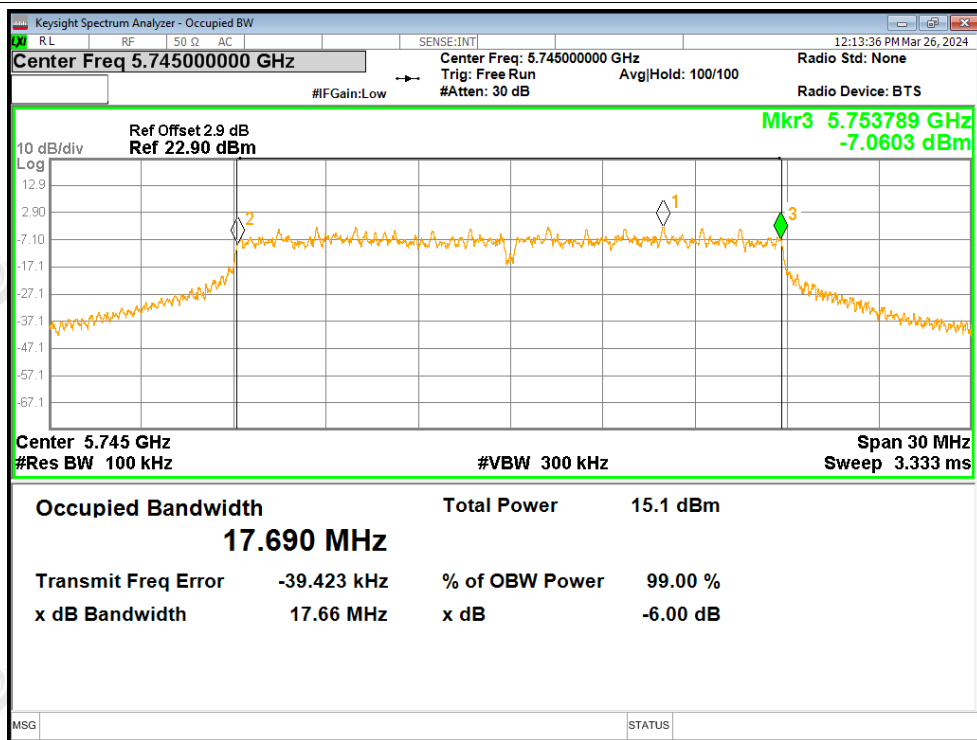
-6dB Bandwidth NVNT n40 5795MHz Ant1



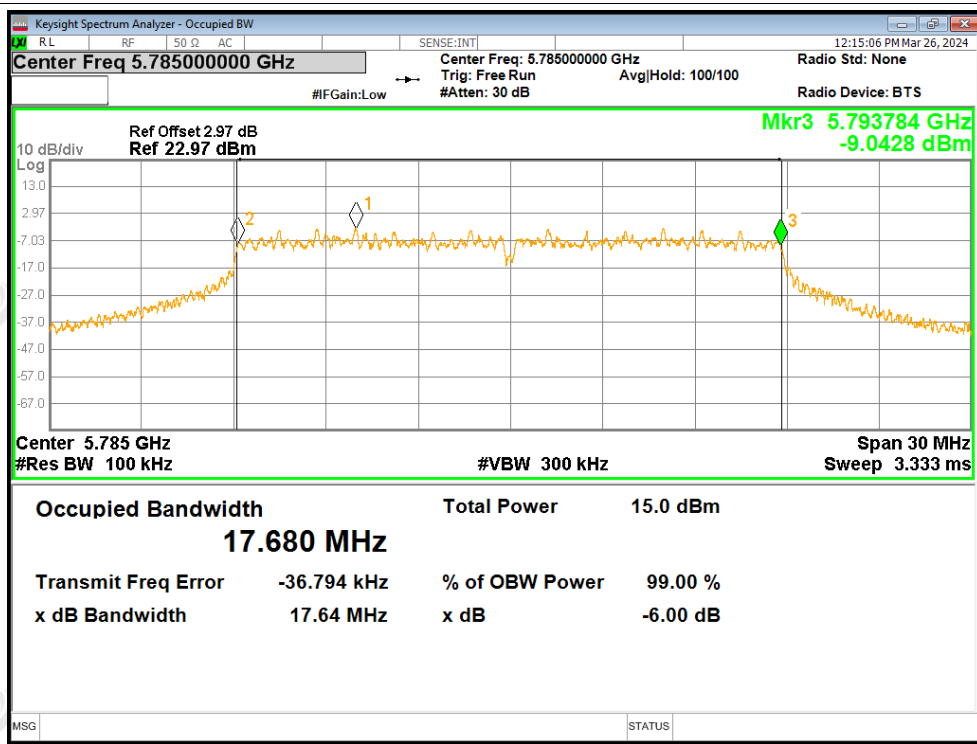


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-6dB Bandwidth NVNT ac20 5745MHz Ant1



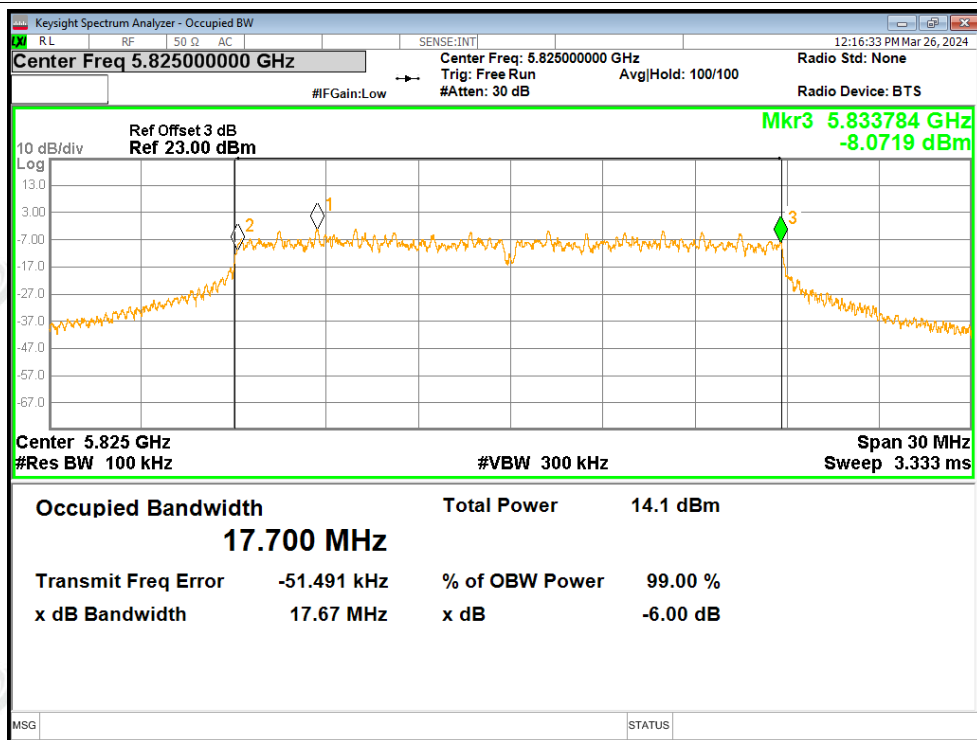
-6dB Bandwidth NVNT ac20 5785MHz Ant1



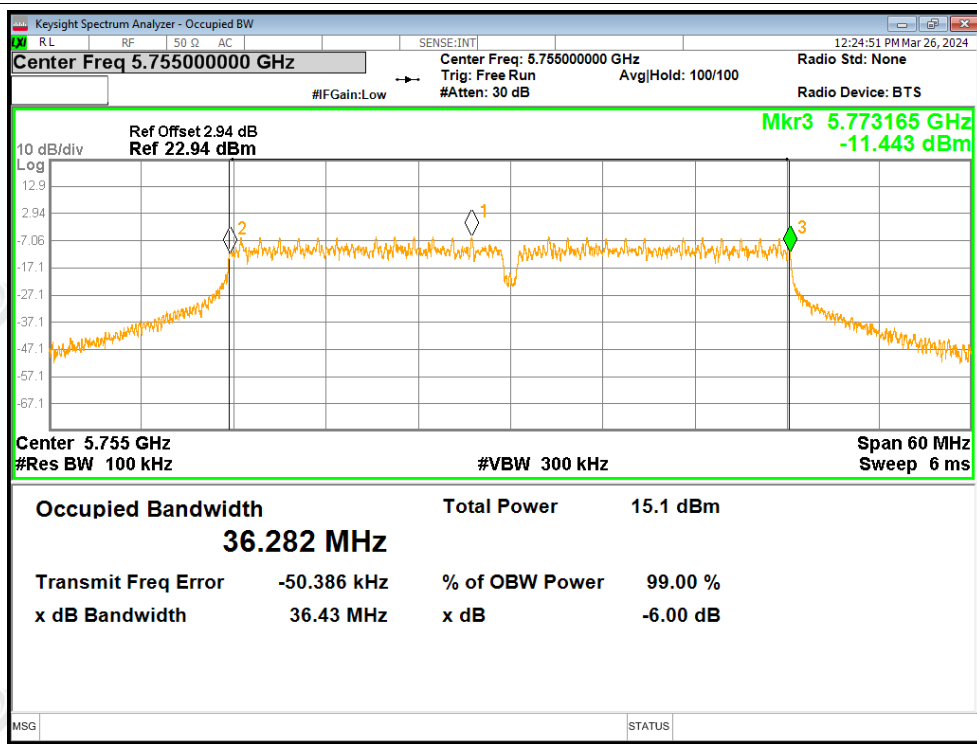


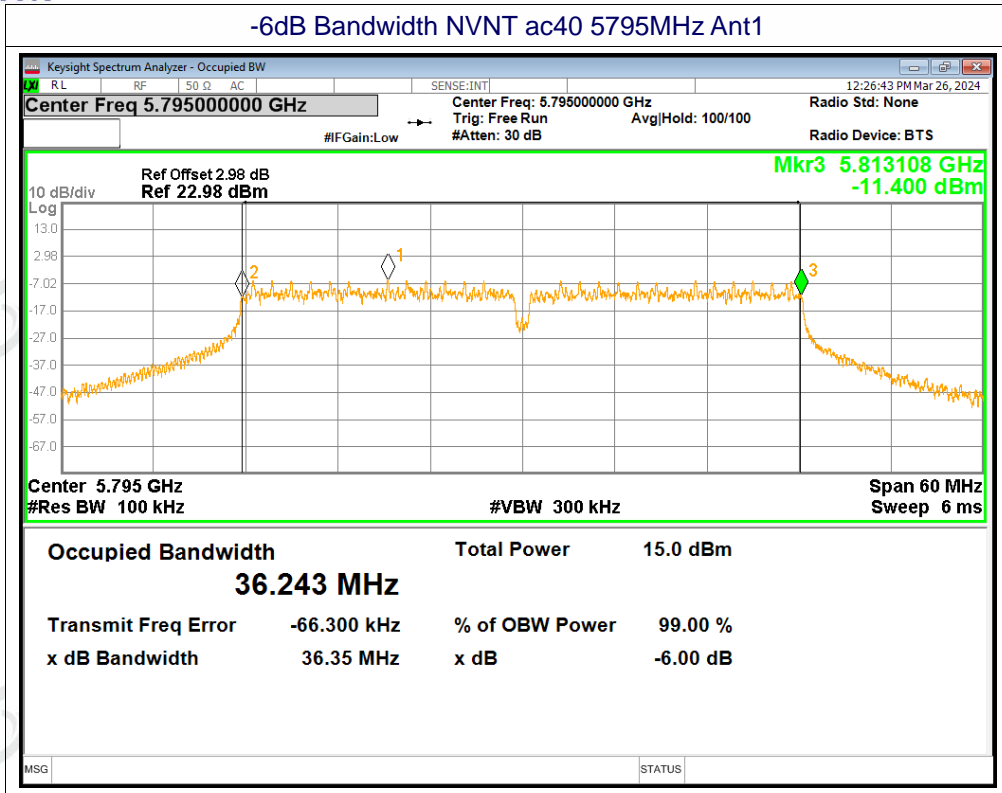
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-6dB Bandwidth NVNT ac20 5825MHz Ant1



-6dB Bandwidth NVNT ac40 5755MHz Ant1





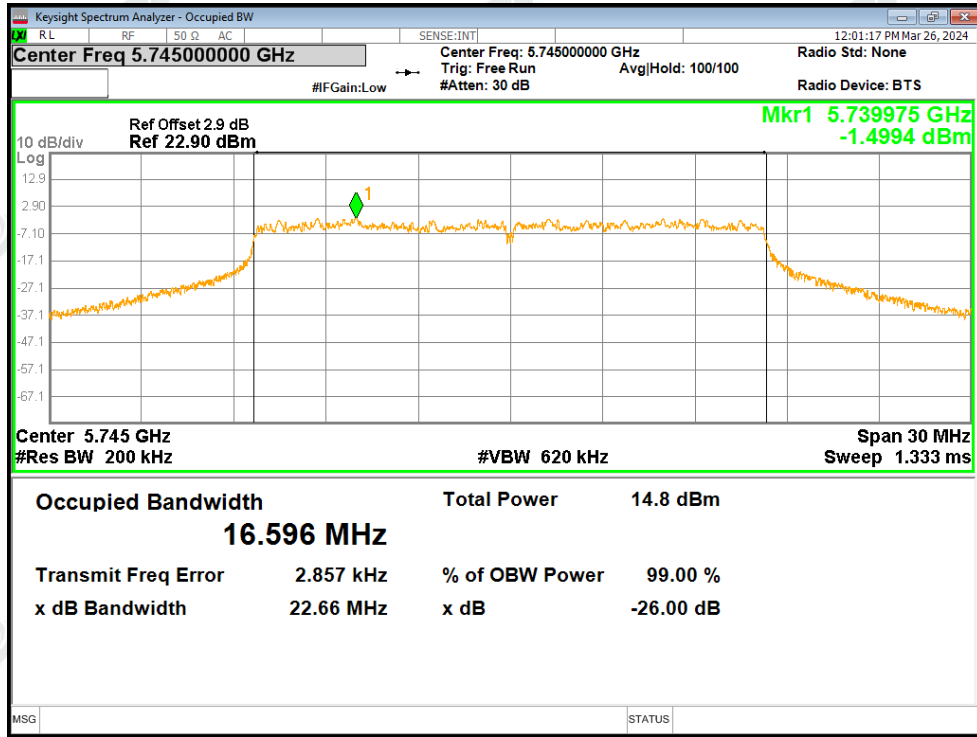
**ZHONGHAN****B4. Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.596
NVNT	a	5785	Ant1	16.546
NVNT	a	5825	Ant1	16.582
NVNT	n20	5745	Ant1	17.81
NVNT	n20	5785	Ant1	17.79
NVNT	n20	5825	Ant1	17.838
NVNT	n40	5755	Ant1	36.359
NVNT	n40	5795	Ant1	36.363
NVNT	ac20	5745	Ant1	17.832
NVNT	ac20	5785	Ant1	17.863
NVNT	ac20	5825	Ant1	17.879
NVNT	ac40	5755	Ant1	36.585
NVNT	ac40	5795	Ant1	36.666

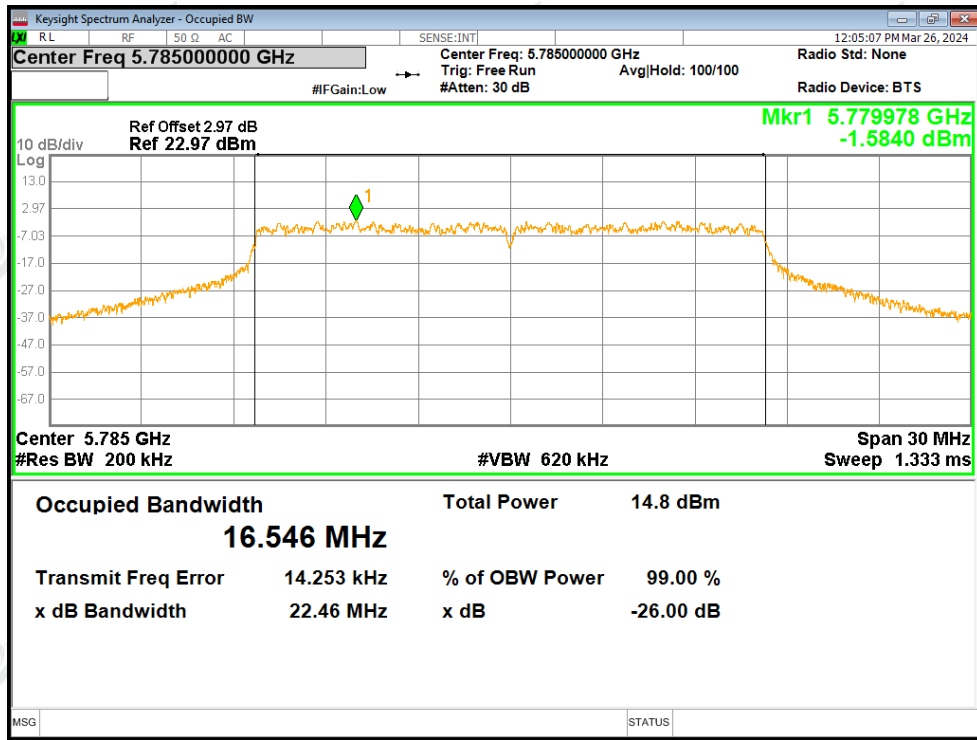


Test Graphs

OBW NVNT a 5745MHz Ant1

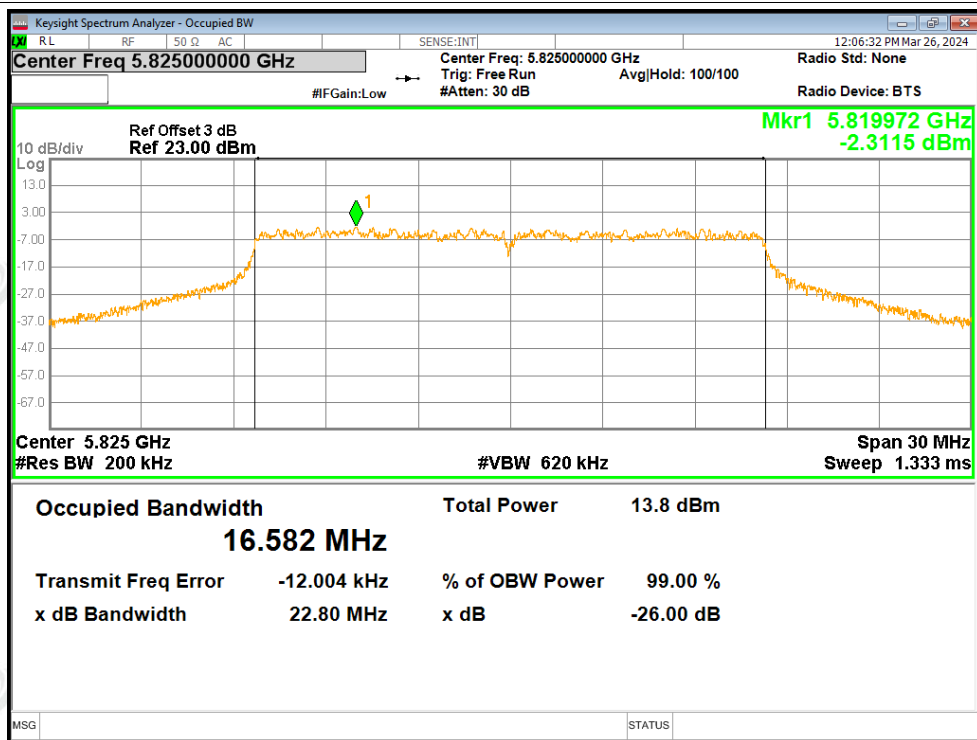


OBW NVNT a 5785MHz Ant1

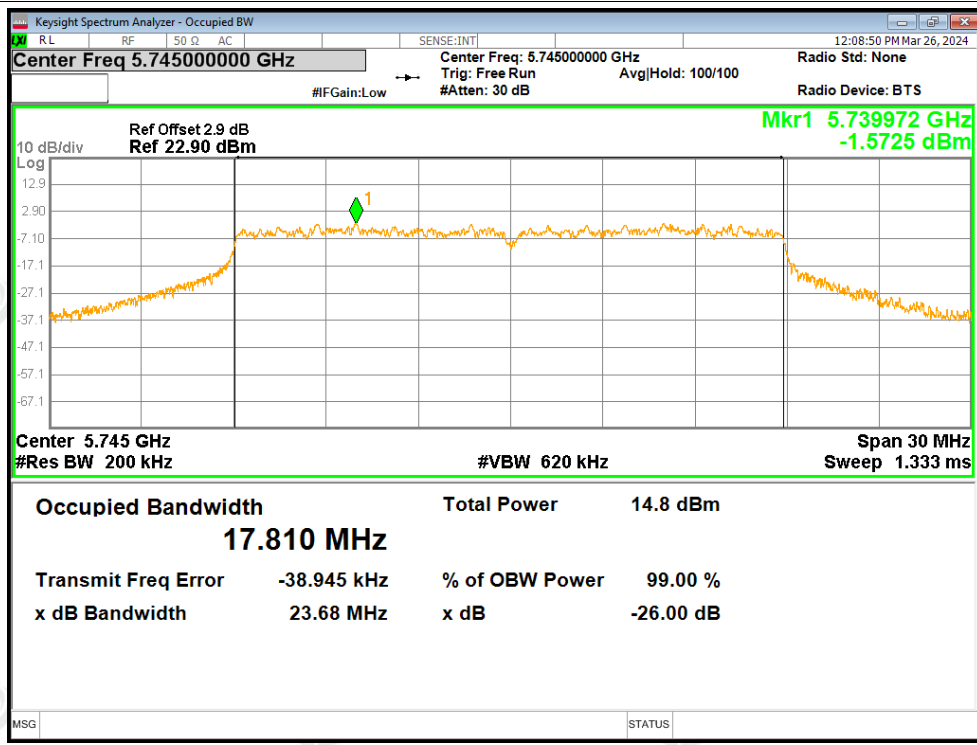




OBW NVNT a 5825MHz Ant1

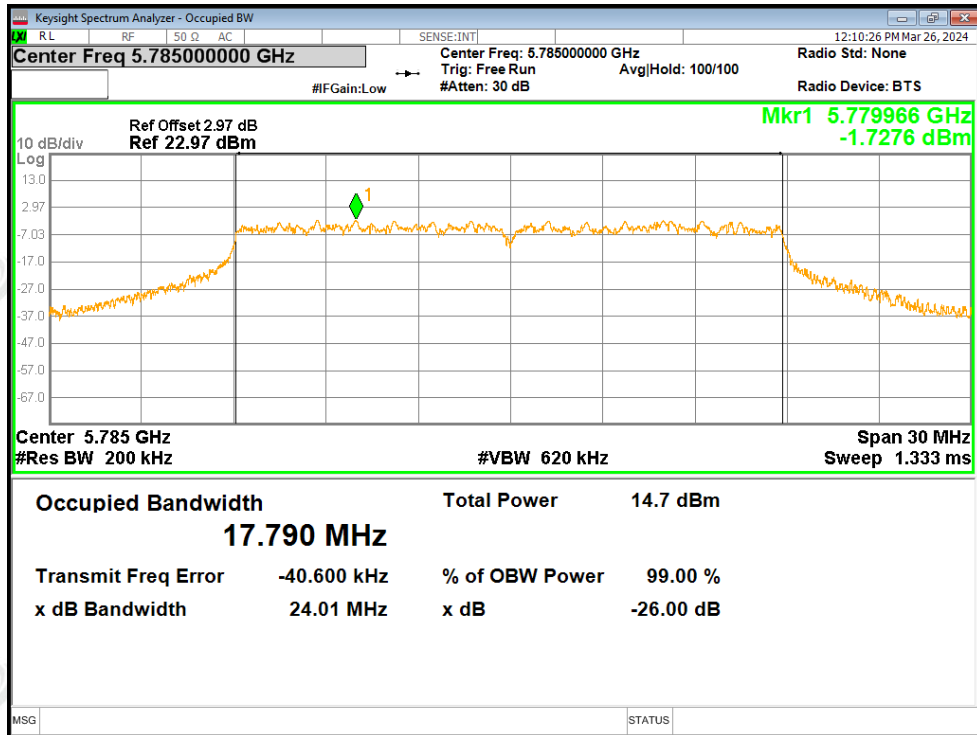


OBW NVNT n20 5745MHz Ant1

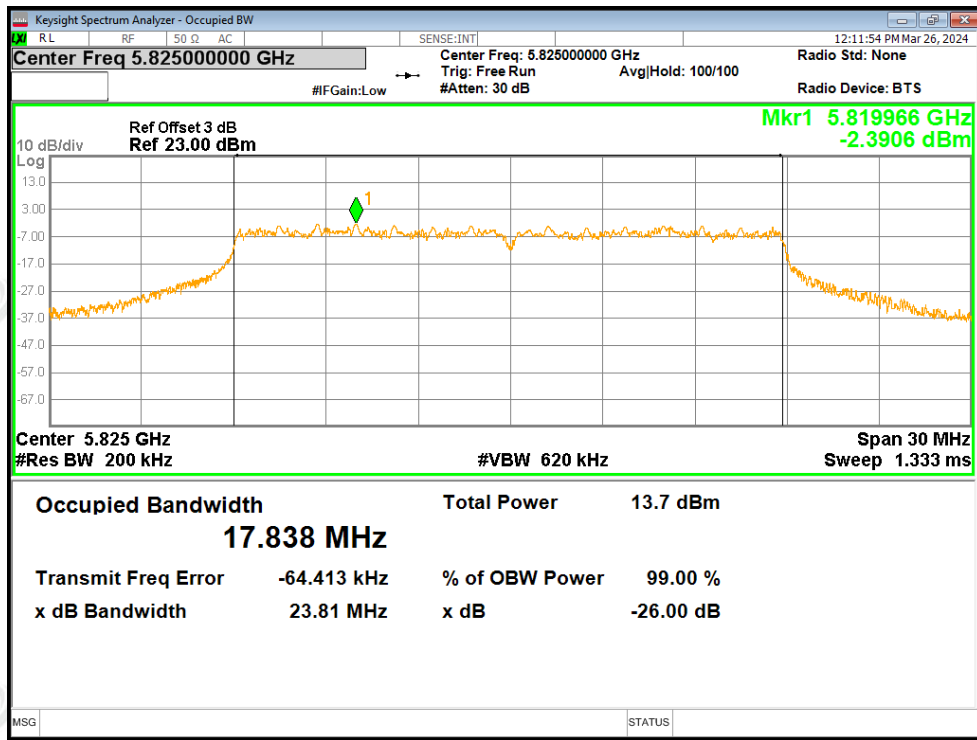




OBW NVNT n20 5785MHz Ant1

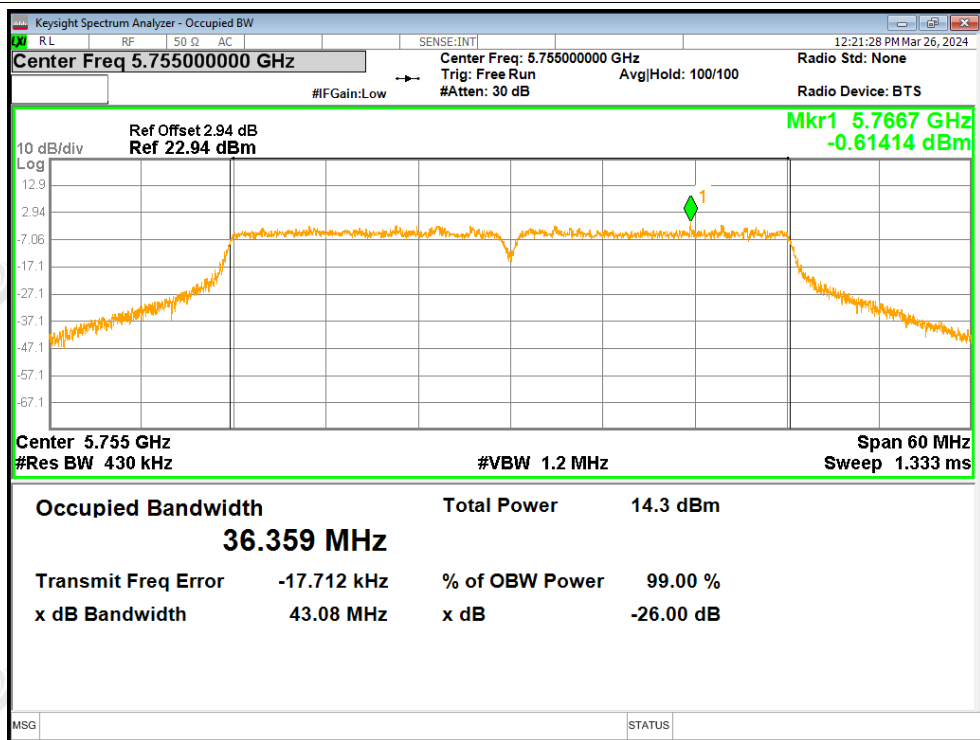


OBW NVNT n20 5825MHz Ant1

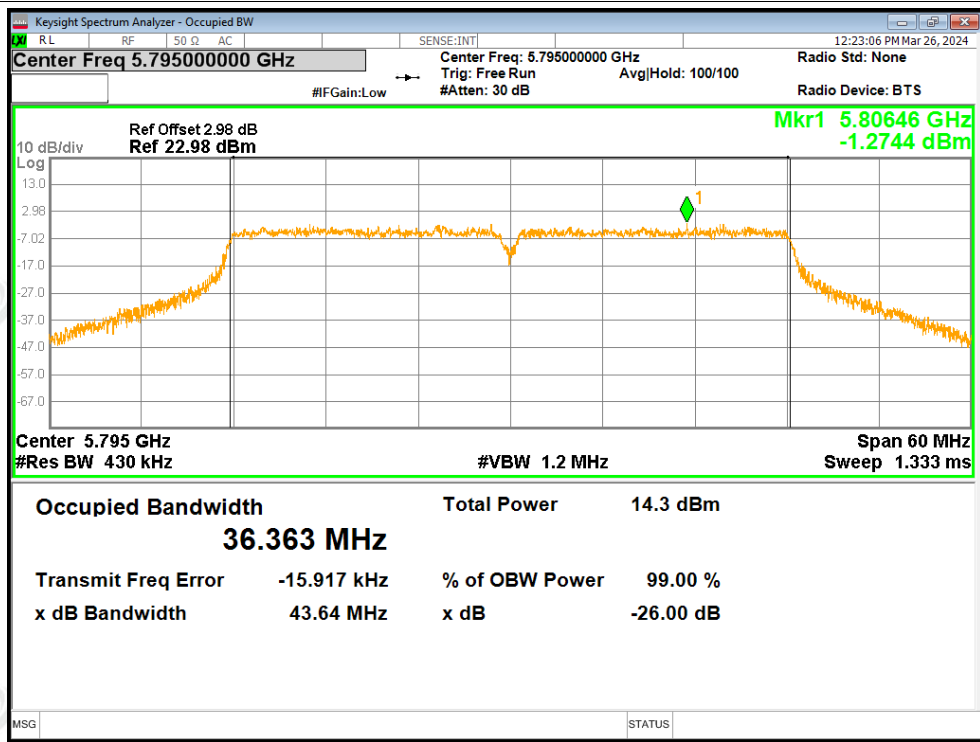




OBW NVNT n40 5755MHz Ant1



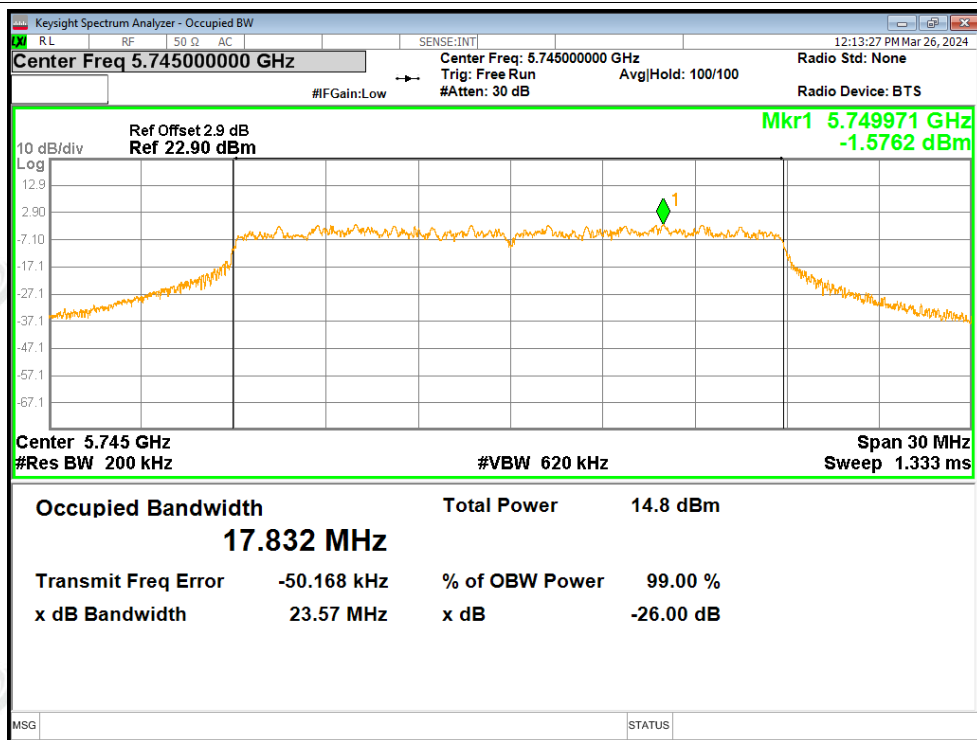
OBW NVNT n40 5795MHz Ant1



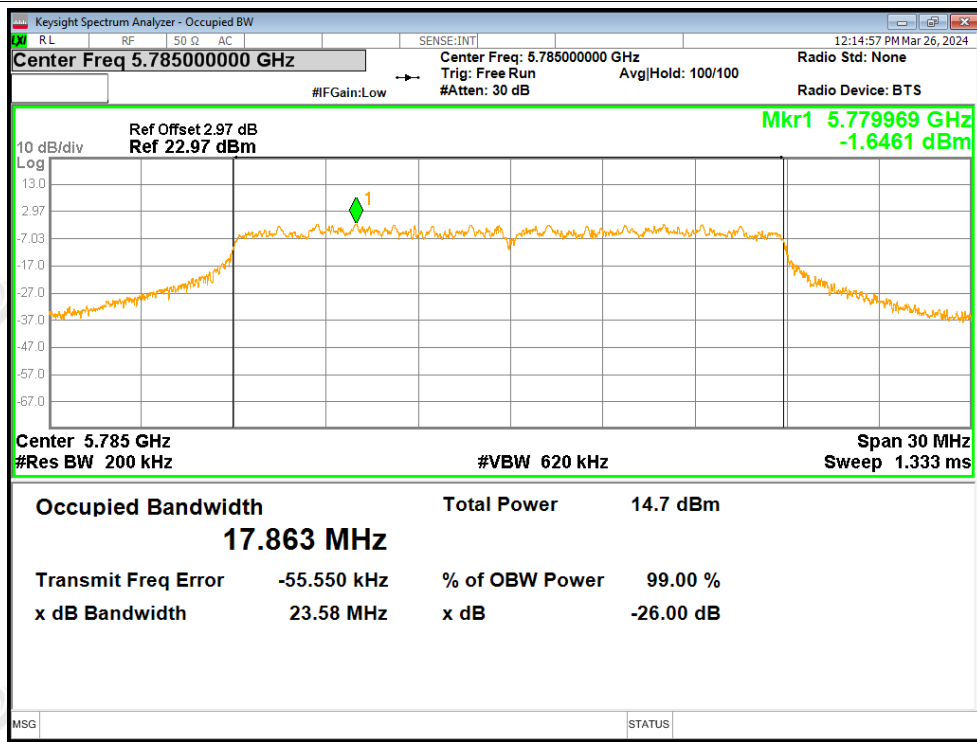


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OBW NVNT ac20 5745MHz Ant1



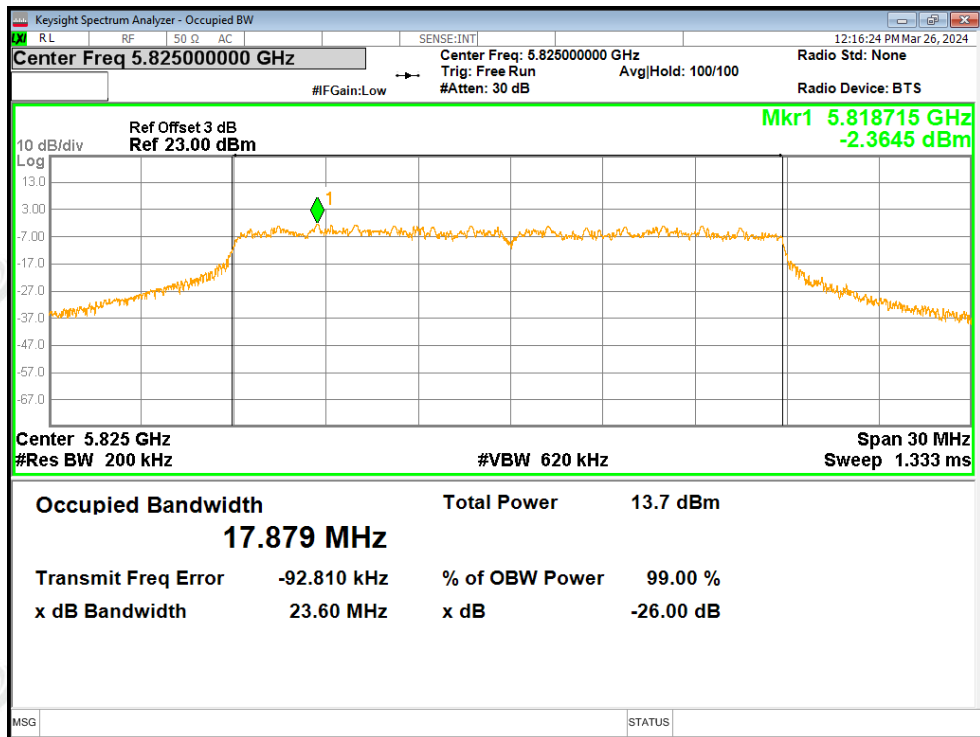
OBW NVNT ac20 5785MHz Ant1



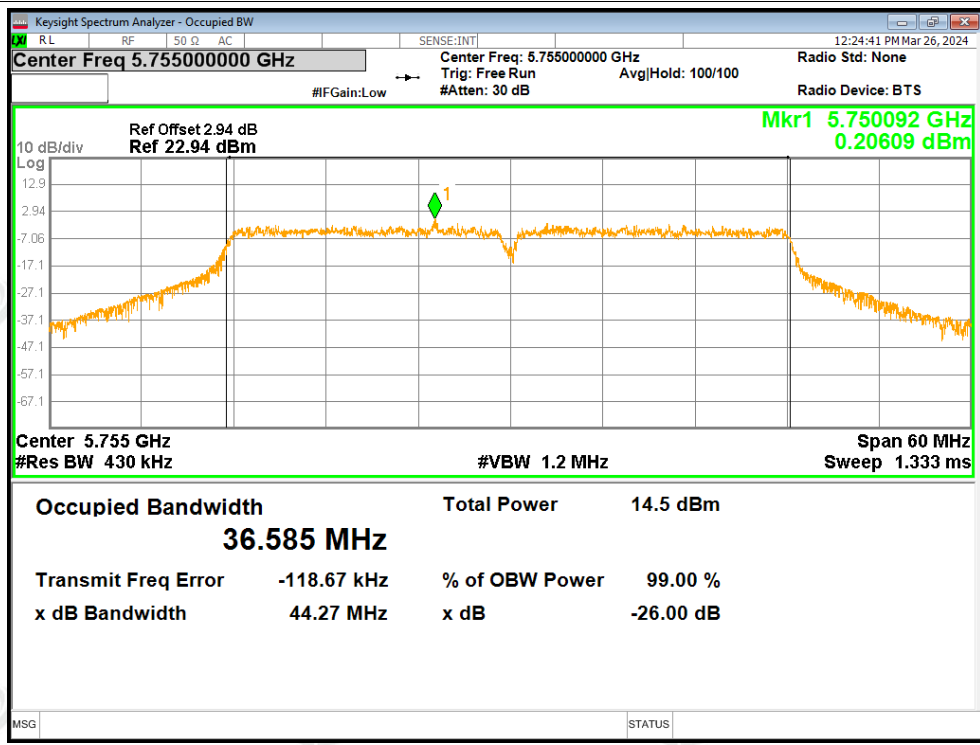


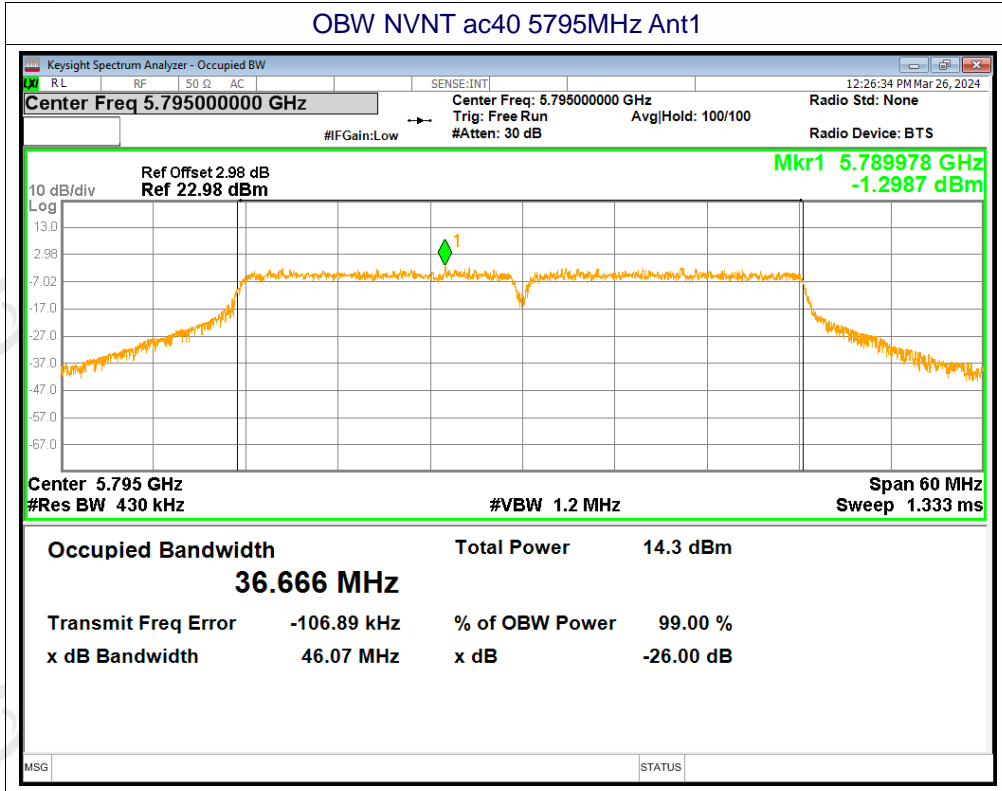
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OBW NVNT ac20 5825MHz Ant1



OBW NVNT ac40 5755MHz Ant1





**ZHONGHAN****B5. Maximum Power Spectral Density Level**

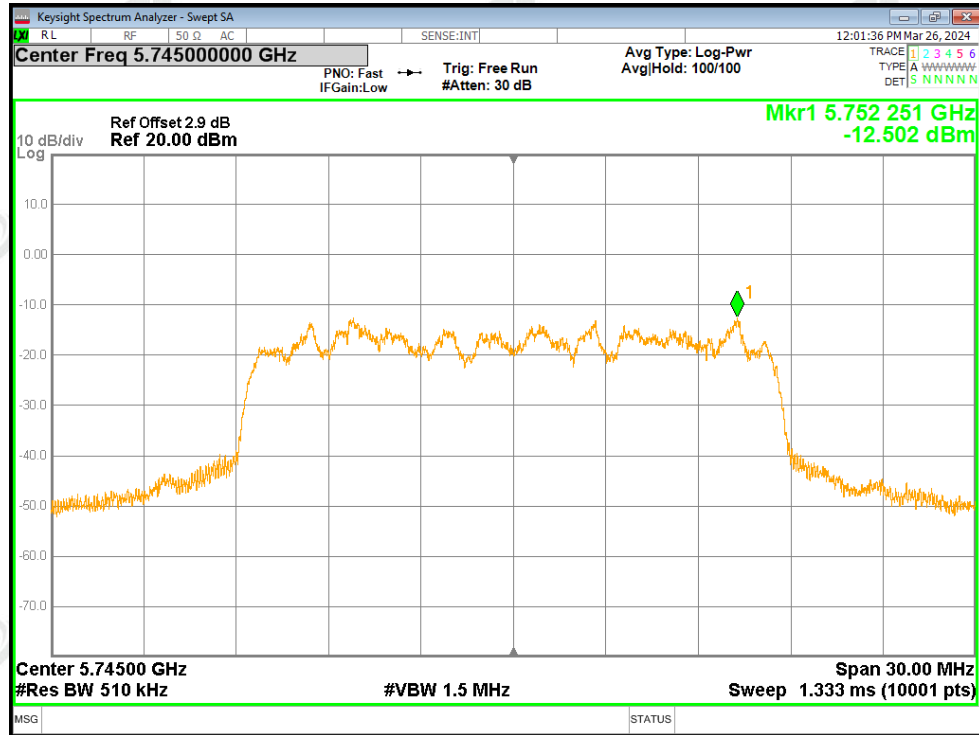
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-12.5	0.71	-11.79	30	Pass
NVNT	a	5785	Ant1	-11.94	0.71	-11.23	30	Pass
NVNT	a	5825	Ant1	-11.55	0.67	-10.88	30	Pass
NVNT	n20	5745	Ant1	-11.6	0.75	-10.85	30	Pass
NVNT	n20	5785	Ant1	-11.35	0.75	-10.6	30	Pass
NVNT	n20	5825	Ant1	-15.31	0.75	-14.56	30	Pass
NVNT	n40	5755	Ant1	-19.72	1.14	-18.58	30	Pass
NVNT	n40	5795	Ant1	-19.34	1.14	-18.2	30	Pass
NVNT	ac20	5745	Ant1	-14.09	0.79	-13.3	30	Pass
NVNT	ac20	5785	Ant1	-13.68	0.84	-12.84	30	Pass
NVNT	ac20	5825	Ant1	-13.17	1.09	-12.08	30	Pass
NVNT	ac40	5755	Ant1	-19.47	1.25	-18.22	30	Pass
NVNT	ac40	5795	Ant1	-28.77	1.25	-27.52	30	Pass



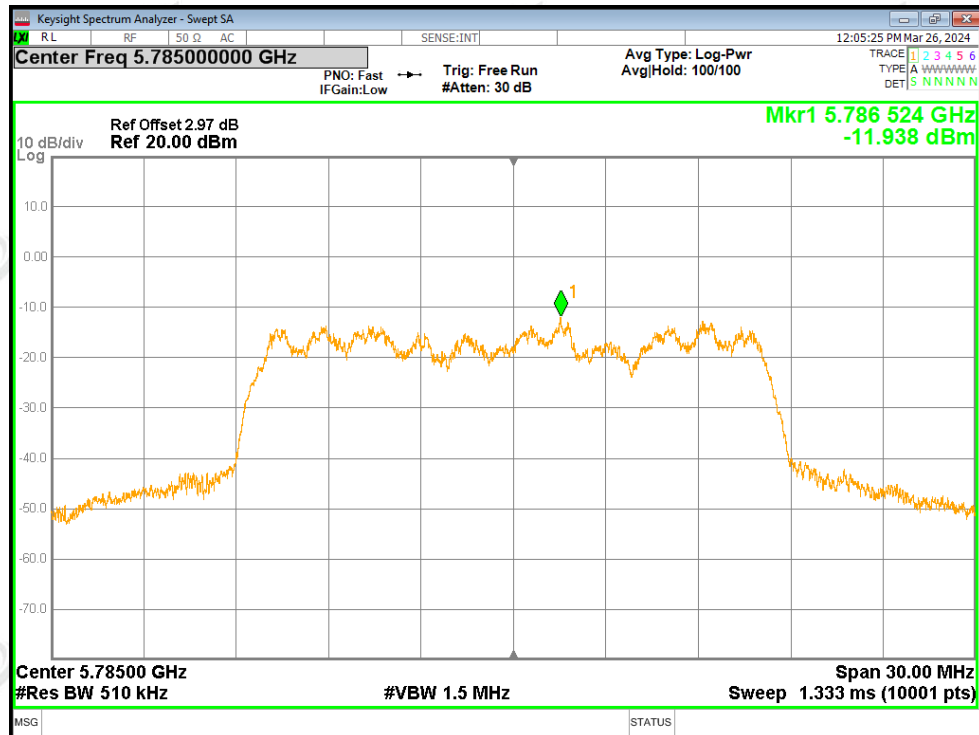


Test Graphs

PSD NVNT a 5745MHz Ant1

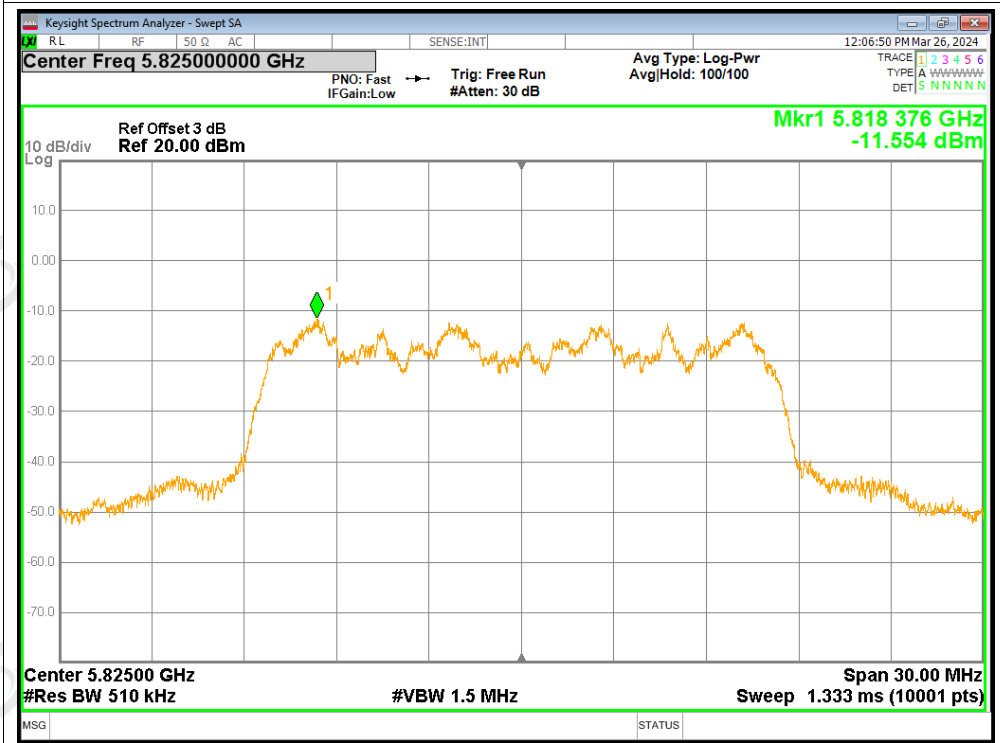


PSD NVNT a 5785MHz Ant1

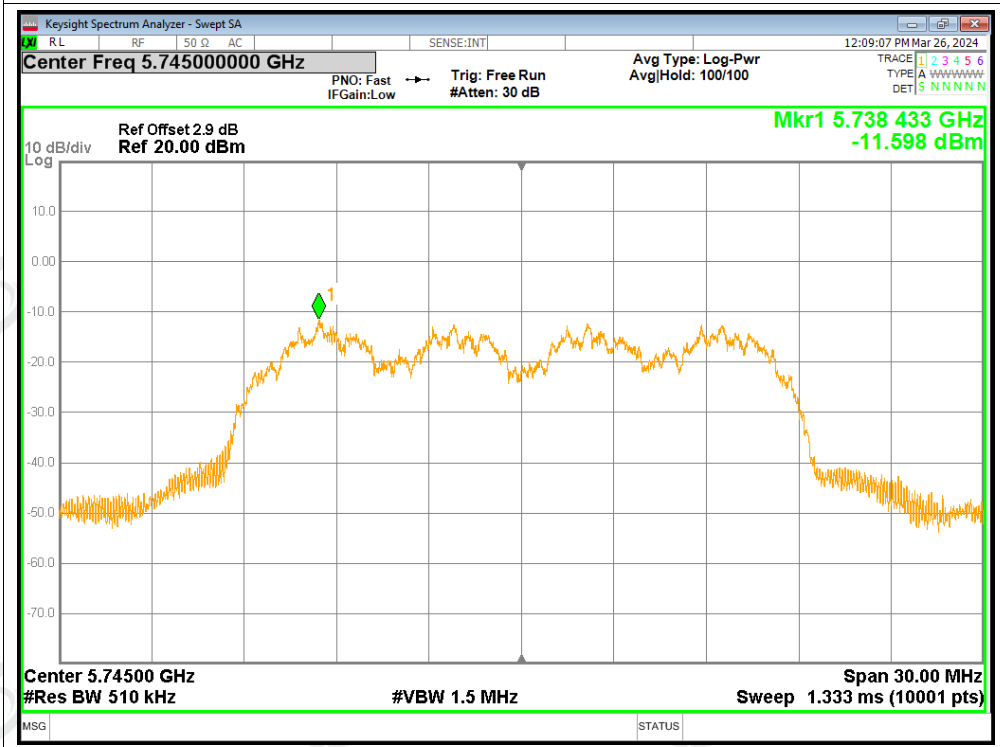




PSD NVNT a 5825MHz Ant1

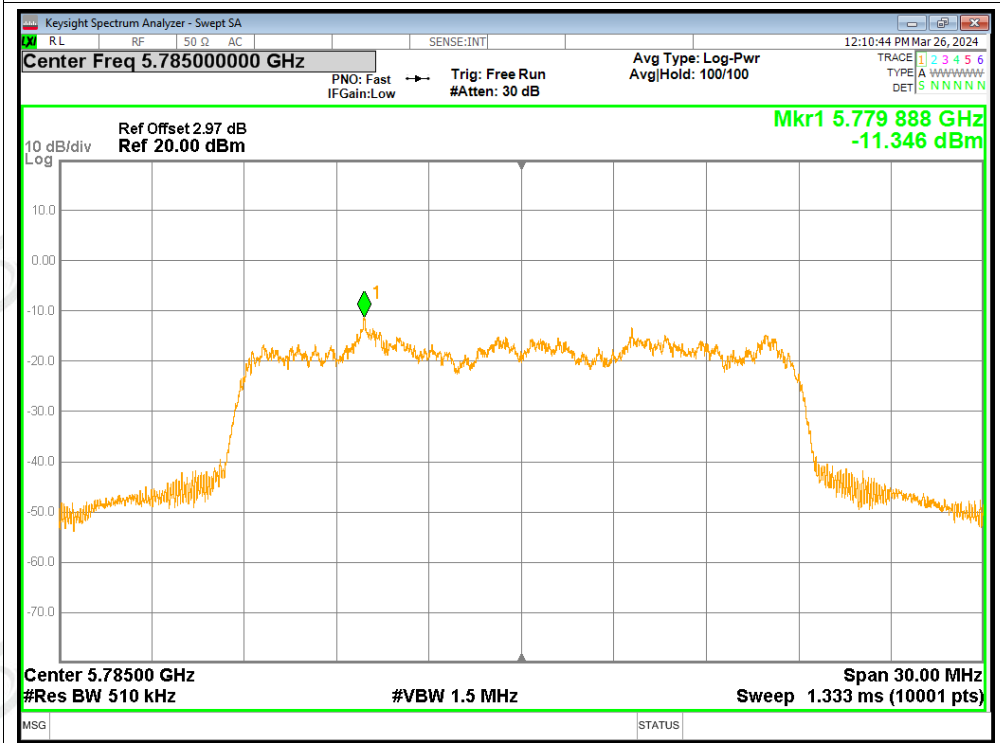


PSD NVNT n20 5745MHz Ant1

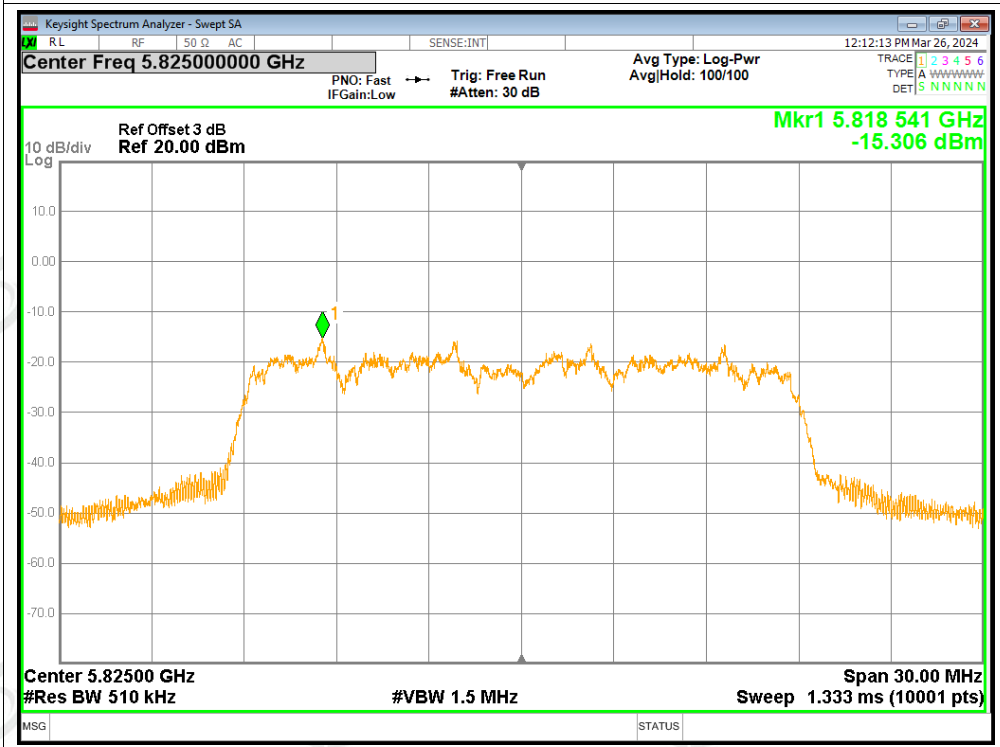




PSD NVNT n20 5785MHz Ant1

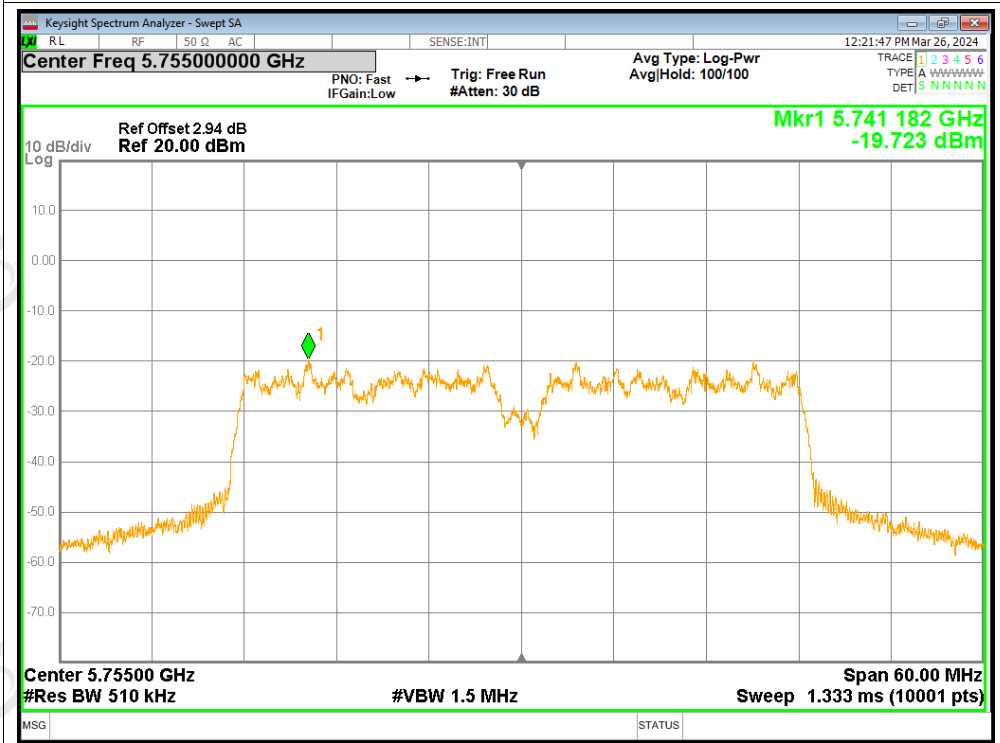


PSD NVNT n20 5825MHz Ant1

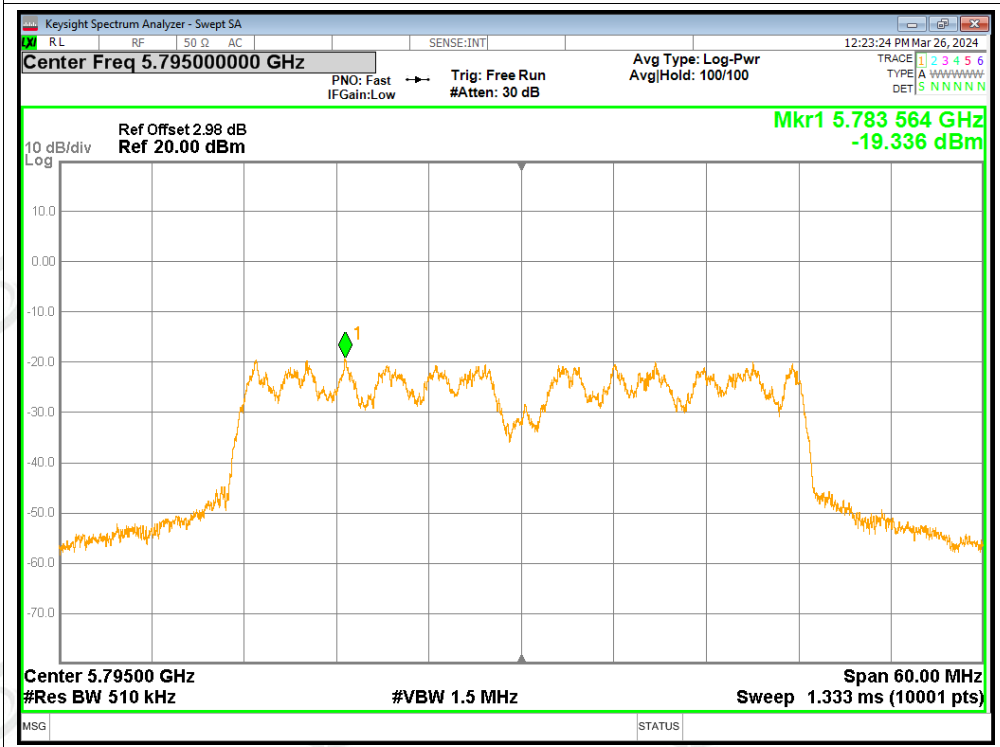




PSD NVNT n40 5755MHz Ant1

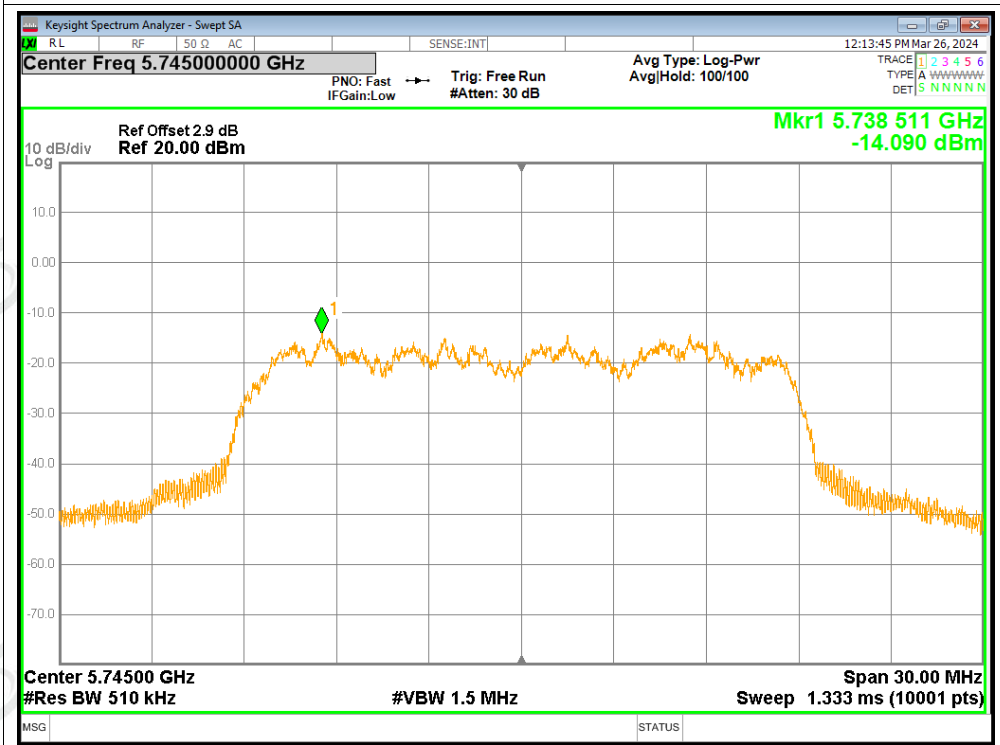


PSD NVNT n40 5795MHz Ant1

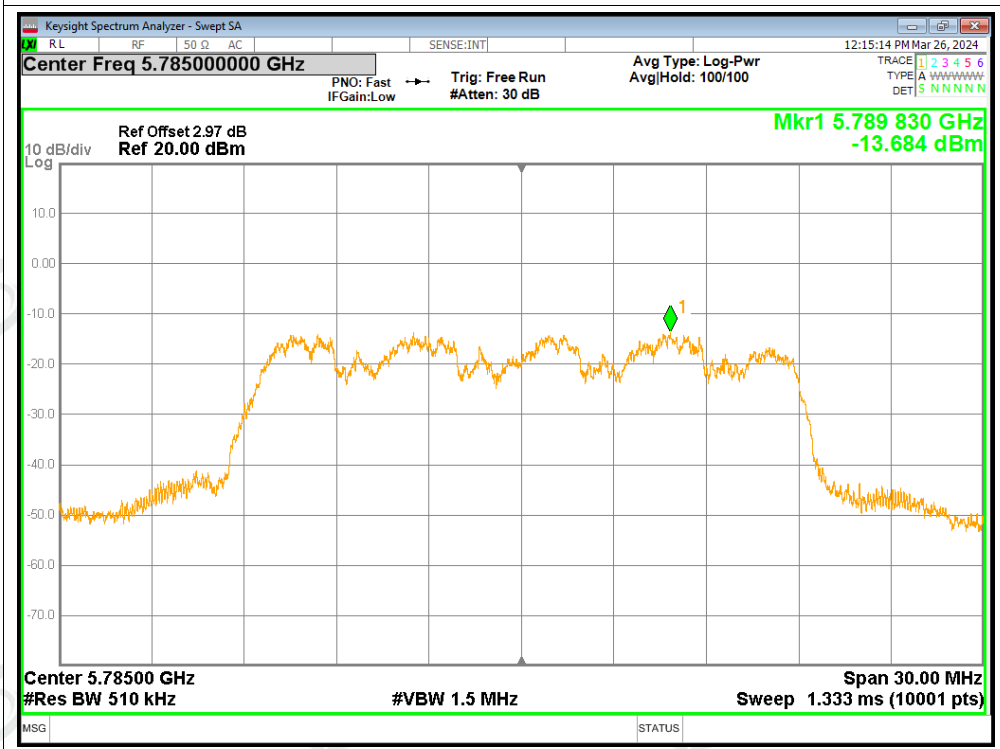




PSD NVNT ac20 5745MHz Ant1

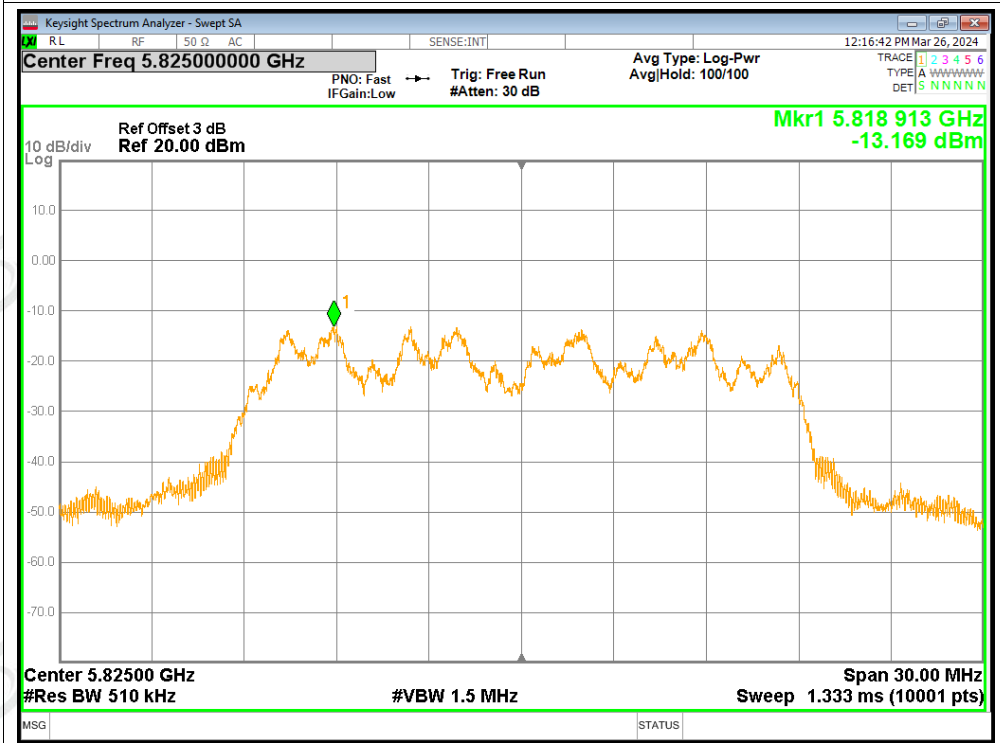


PSD NVNT ac20 5785MHz Ant1

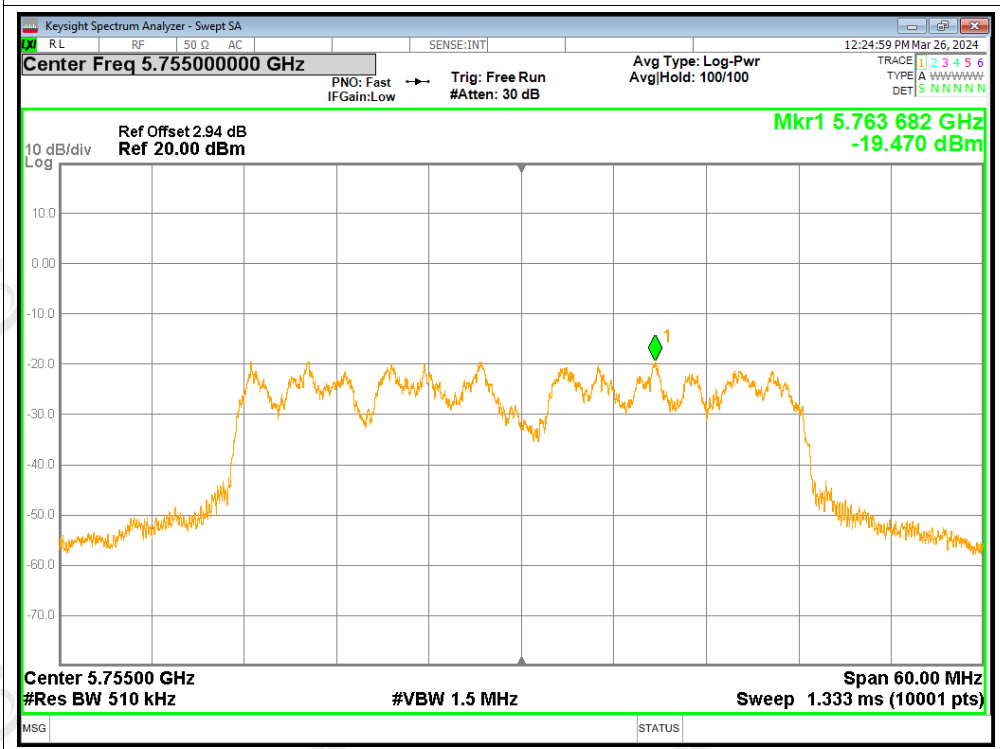


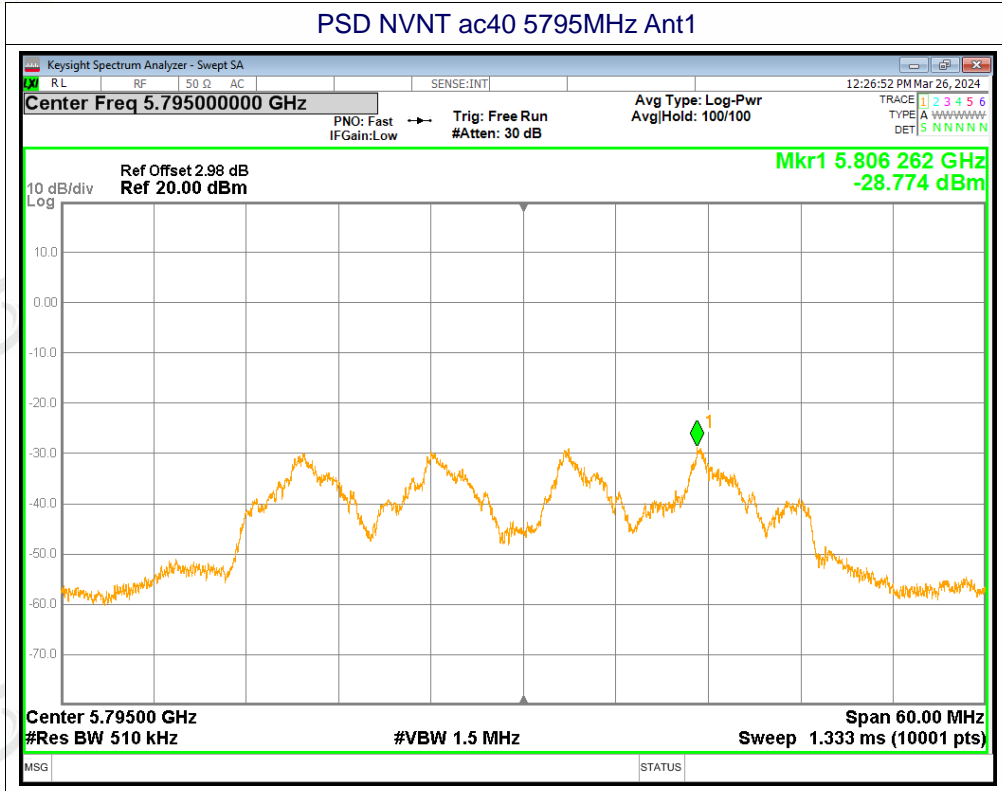


PSD NVNT ac20 5825MHz Ant1



PSD NVNT ac40 5755MHz Ant1





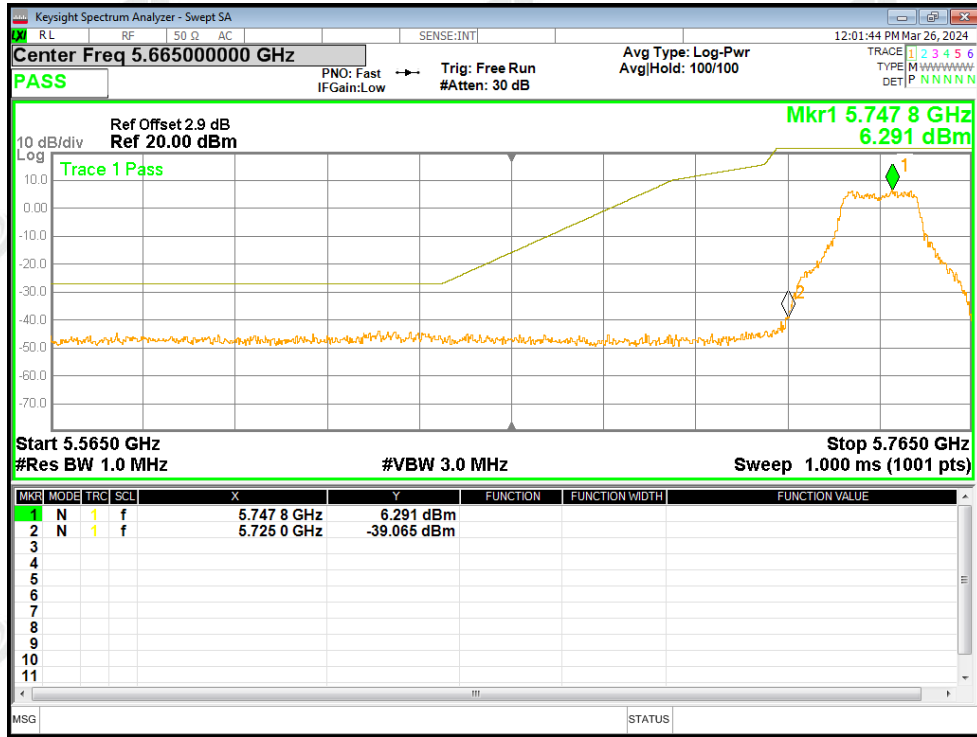
**ZHONGHAN**
B6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-39.06	Refer to below test plot	Pass
NVNT	a	5825	Ant1	-43.5	Refer to below test plot	Pass
NVNT	n20	5745	Ant1	-35.09	Refer to below test plot	Pass
NVNT	n20	5825	Ant1	-43.75	Refer to below test plot	Pass
NVNT	n40	5755	Ant1	-35.07	Refer to below test plot	Pass
NVNT	n40	5795	Ant1	-43.16	Refer to below test plot	Pass
NVNT	ac20	5745	Ant1	-38.84	Refer to below test plot	Pass
NVNT	ac20	5825	Ant1	-44.25	Refer to below test plot	Pass
NVNT	ac40	5755	Ant1	-31.65	Refer to below test plot	Pass
NVNT	ac40	5795	Ant1	-41.12	Refer to below test plot	Pass

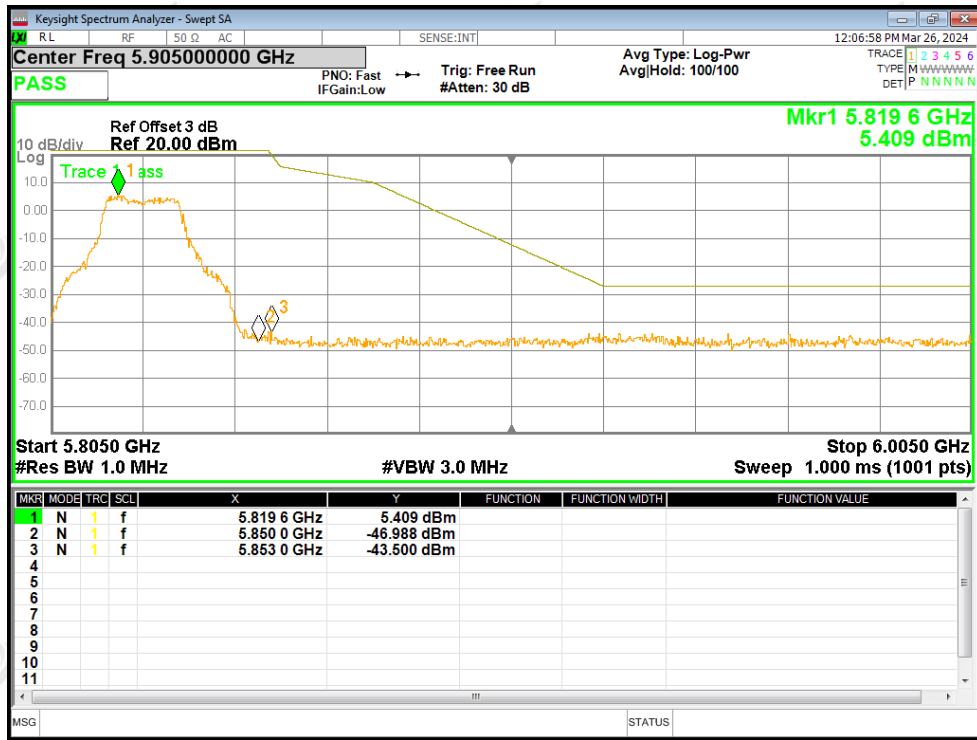


Test Graphs

Band Edge NVNT a 5745MHz Low Ant1

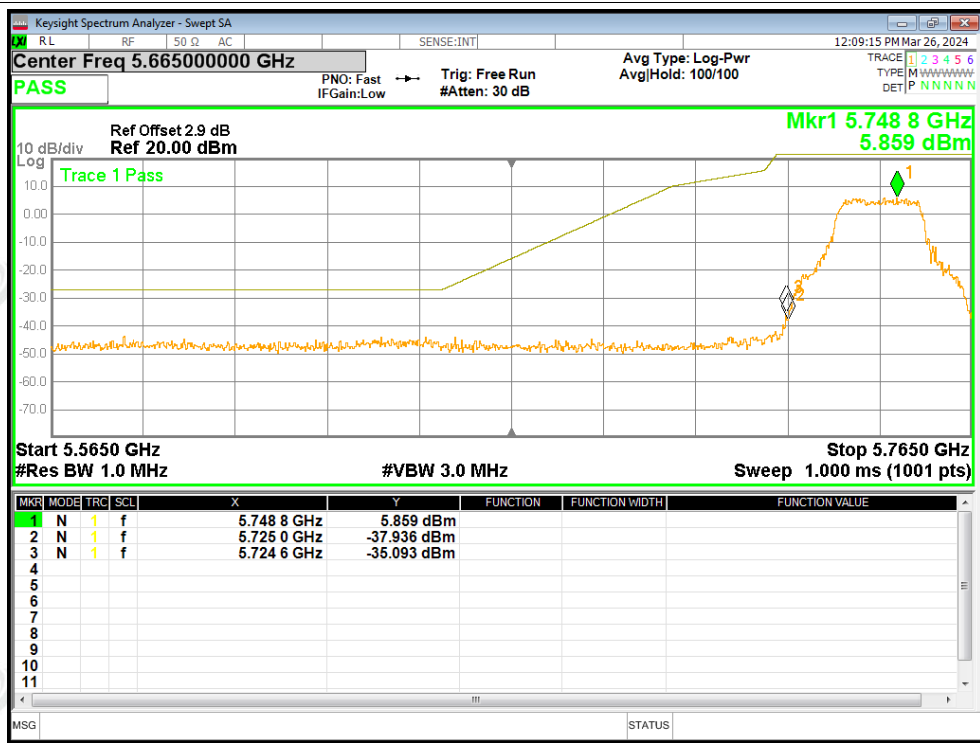


Band Edge NVNT a 5825MHz High Ant1

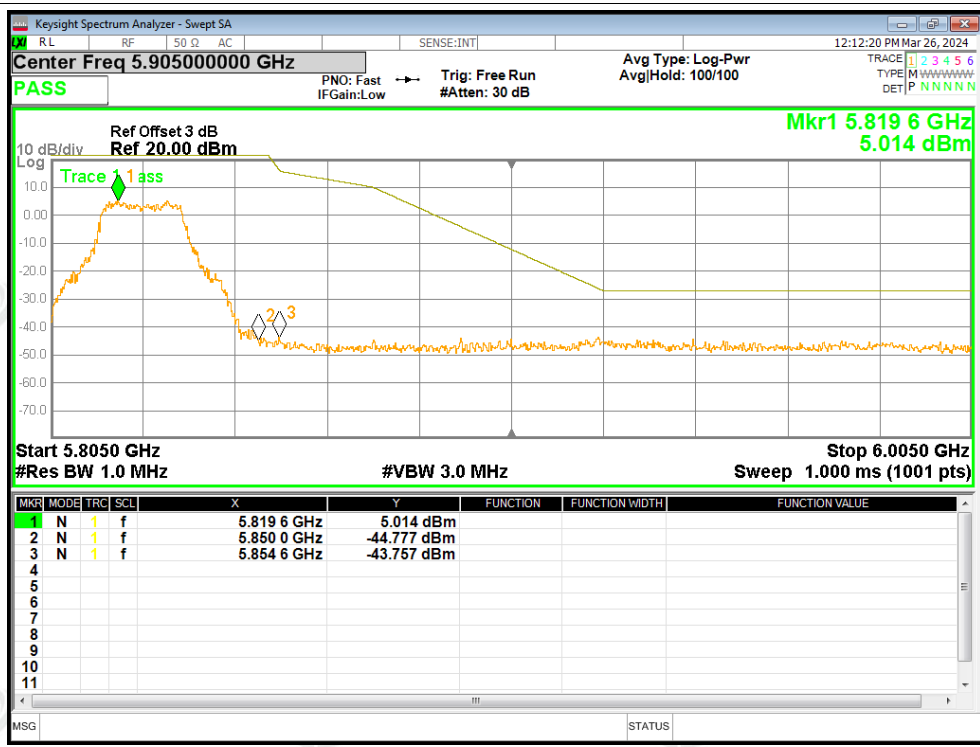




Band Edge NVNT n20 5745MHz Low Ant1

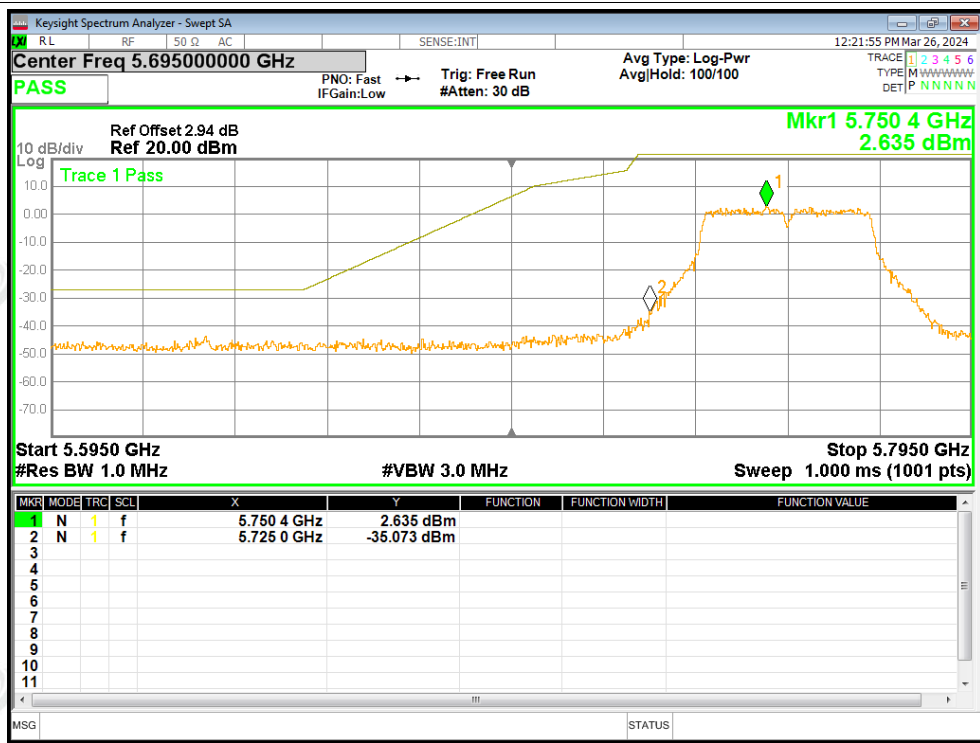


Band Edge NVNT n20 5825MHz High Ant1

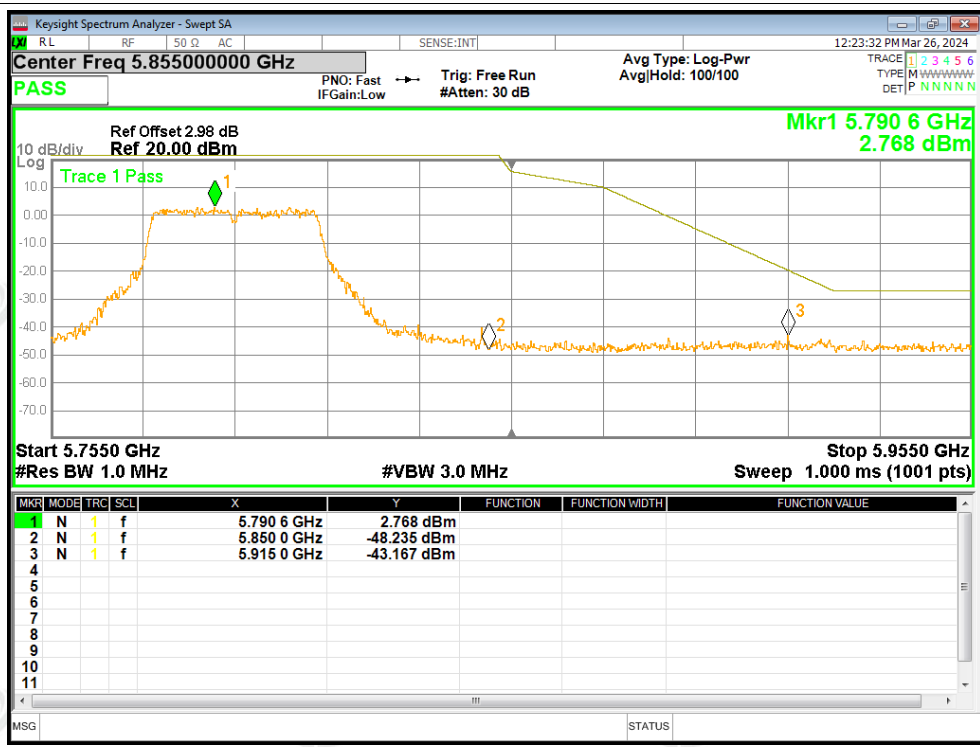




Band Edge NVNT n40 5755MHz Low Ant1

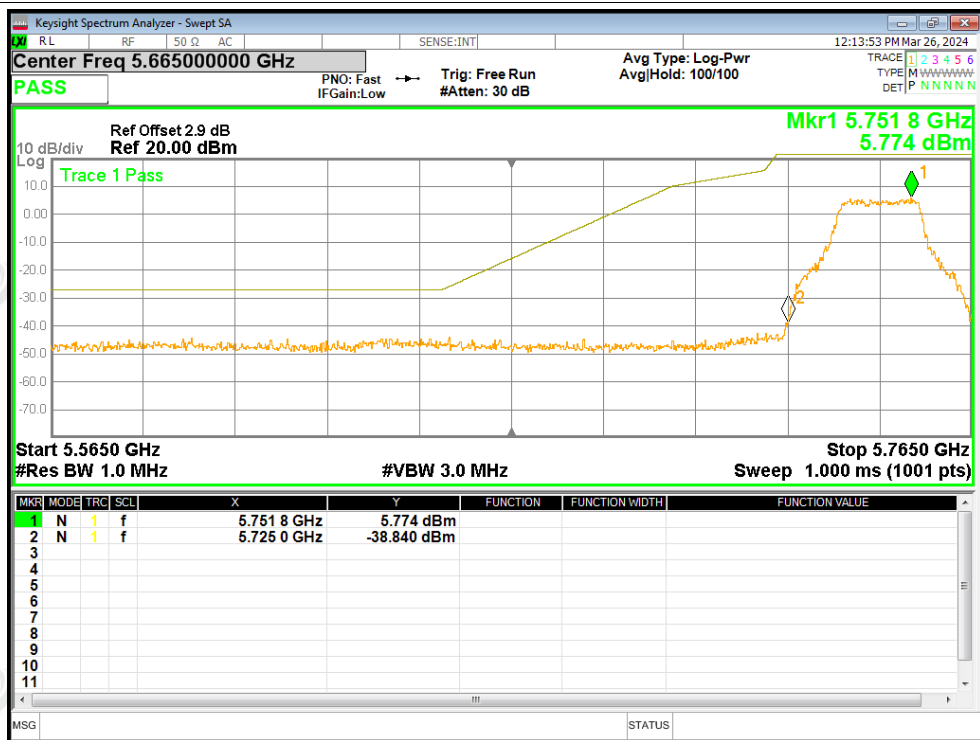


Band Edge NVNT n40 5795MHz High Ant1

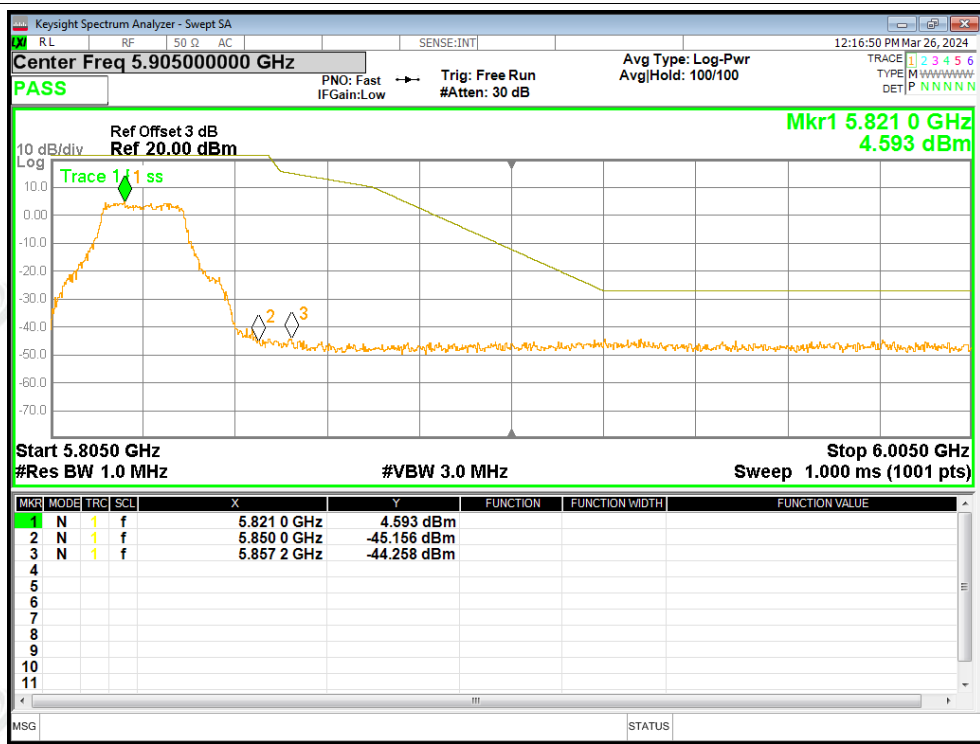




Band Edge NVNT ac20 5745MHz Low Ant1

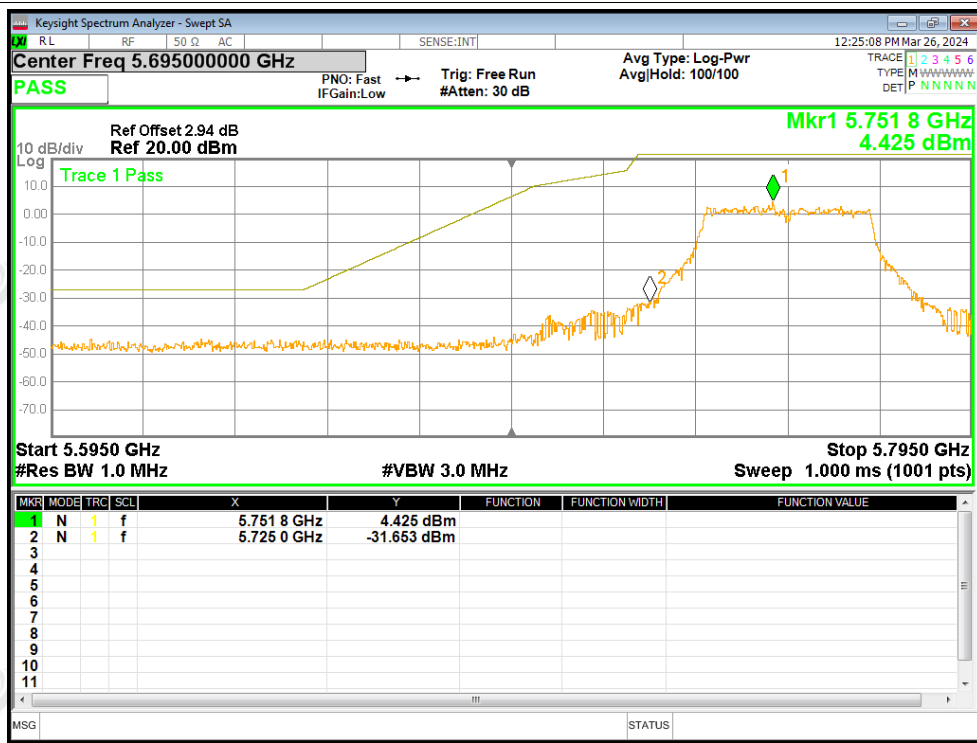


Band Edge NVNT ac20 5825MHz High Ant1

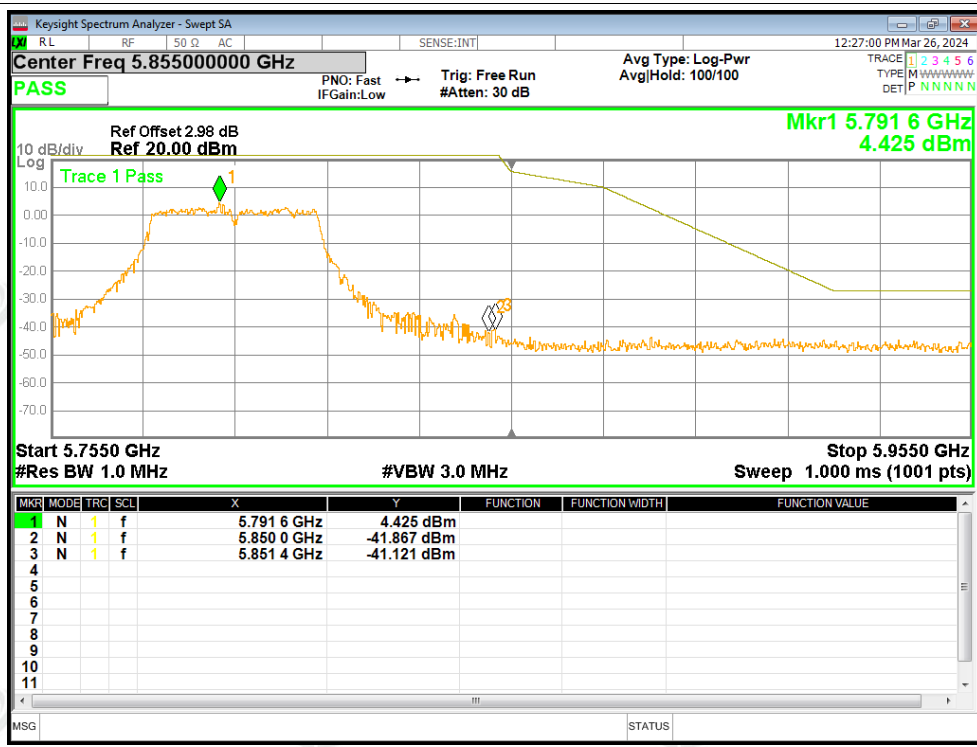




Band Edge NVNT ac40 5755MHz Low Ant1



Band Edge NVNT ac40 5795MHz High Ant1



**ZHONGHAN****B7. Frequency Stability**

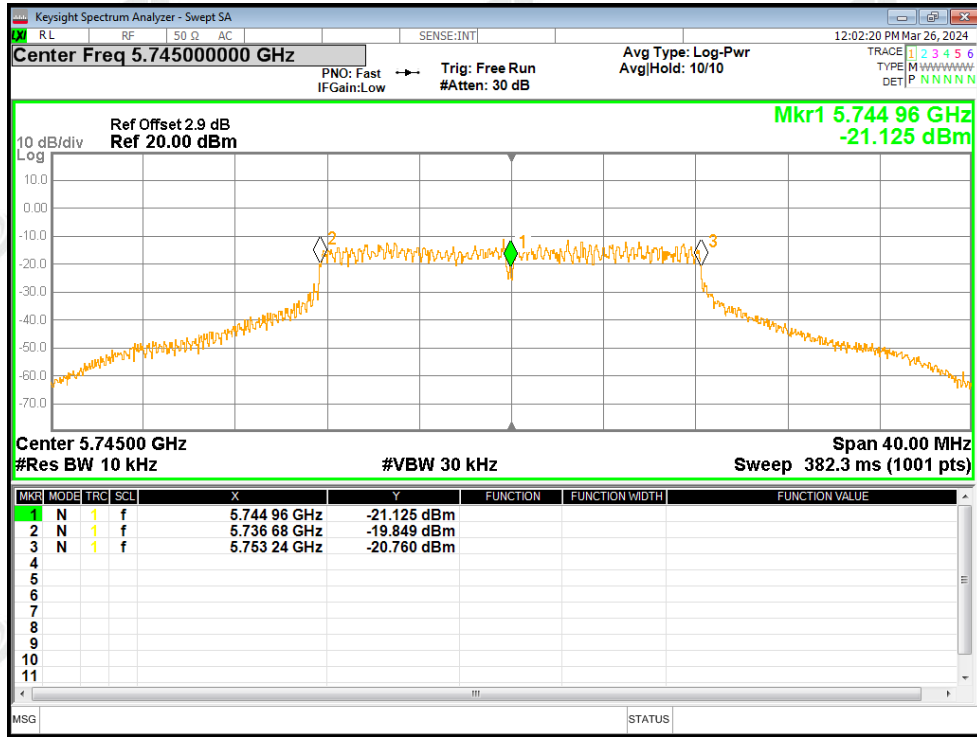
Condition	Mode	Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	-40000	-6.96	Within 5745-5825MHz	Pass
NVNT	a	5785	-40000	-6.91		Pass
NVNT	a	5825	0	0		Pass
NVNT	n20	5745	-40000	-6.96		Pass
NVNT	n20	5785	-40000	-6.91		Pass
NVNT	n20	5825	-40000	-6.87		Pass
NVNT	n40	5755	-80000	-13.9	Within 5755-5795MHz	Pass
NVNT	n40	5795	-80000	-13.81		Pass
NVNT	ac20	5745	-40000	-6.96	Within 5745-5825MHz	Pass
NVNT	ac20	5785	-40000	-6.91		Pass
NVNT	ac20	5825	-40000	-6.87		Pass
NVNT	ac40	5755	-80000	-13.9	Within	Pass
NVNT	ac40	5795	-80000	-13.81	5755-5795MHz	Pass

Note: Test temperature: -20° to $+70^{\circ}$. At room temperature, the test results are the worst, only reflecting the test results graphs at room temperature.

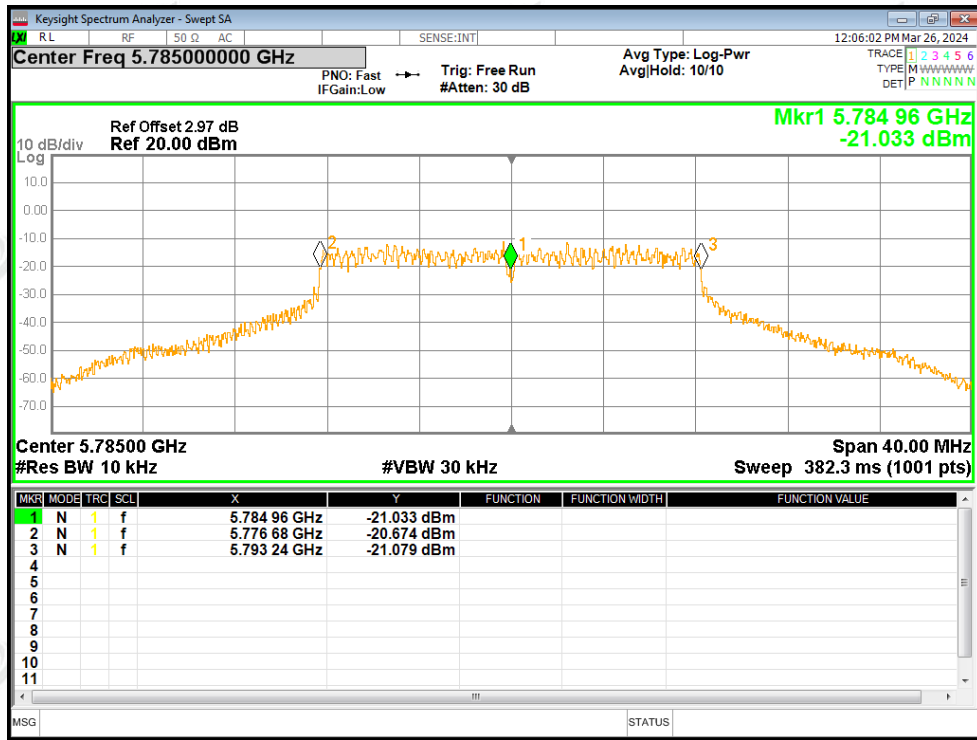


Test Graphs

Freq. Stability NVNT a 5745MHz Ant1

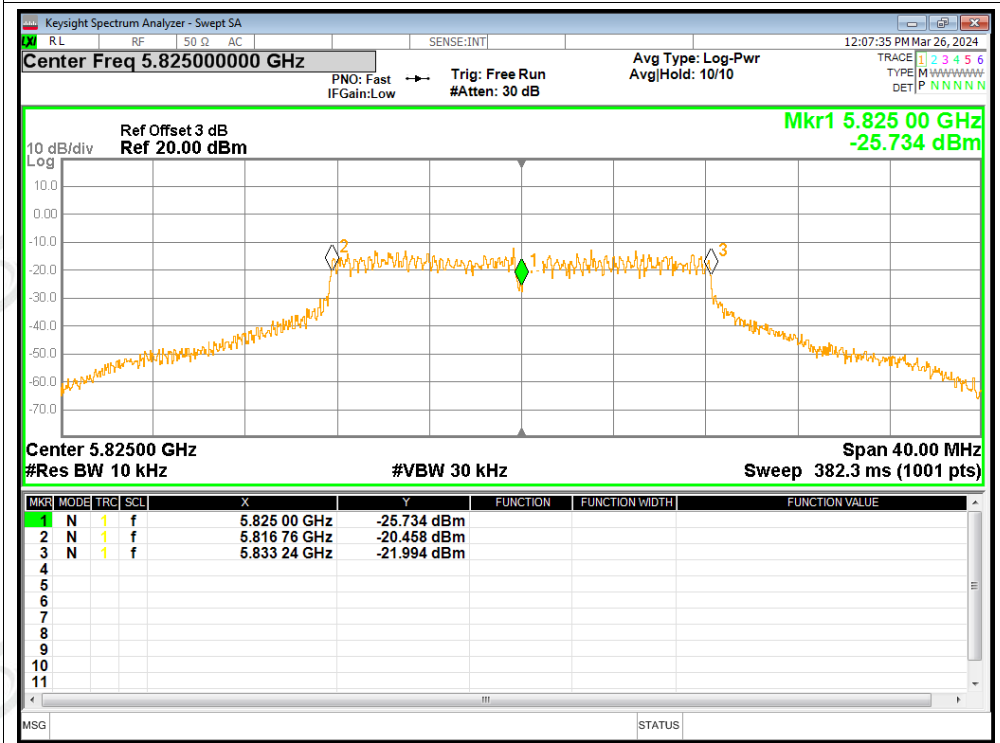


Freq. Stability NVNT a 5785MHz Ant1

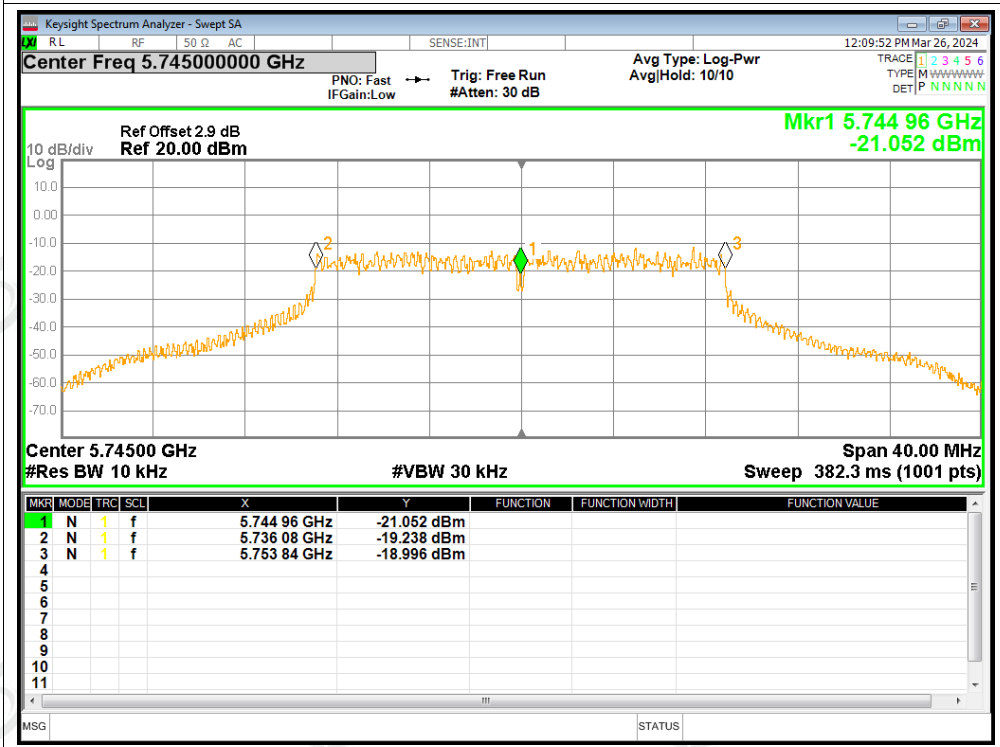




Freq. Stability NVNT a 5825MHz Ant1

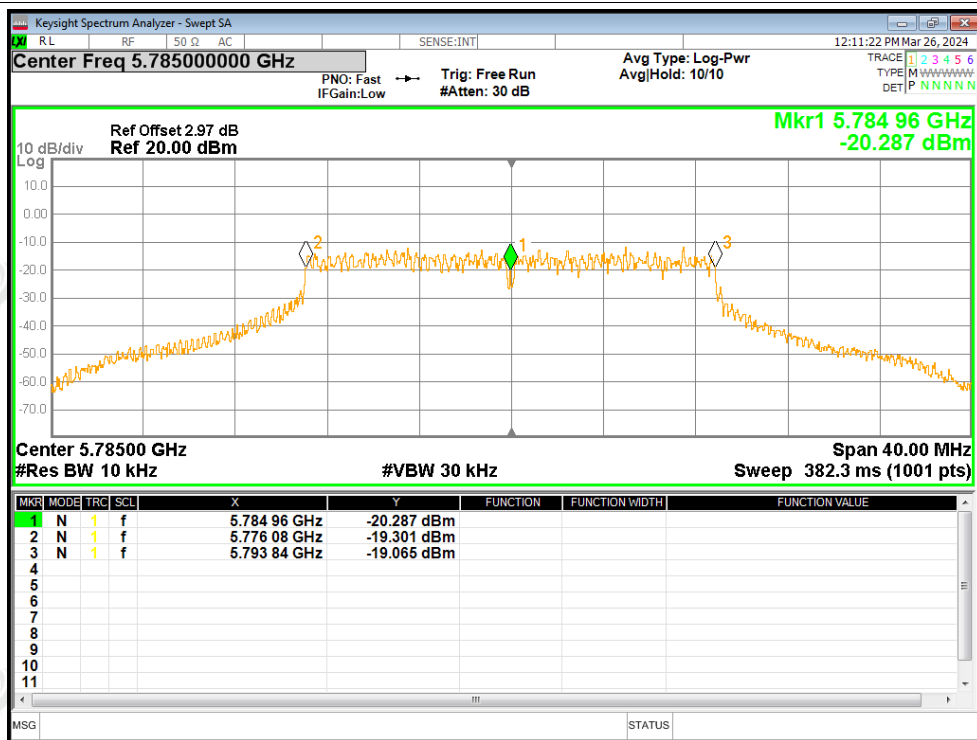


Freq. Stability NVNT n20 5745MHz Ant1

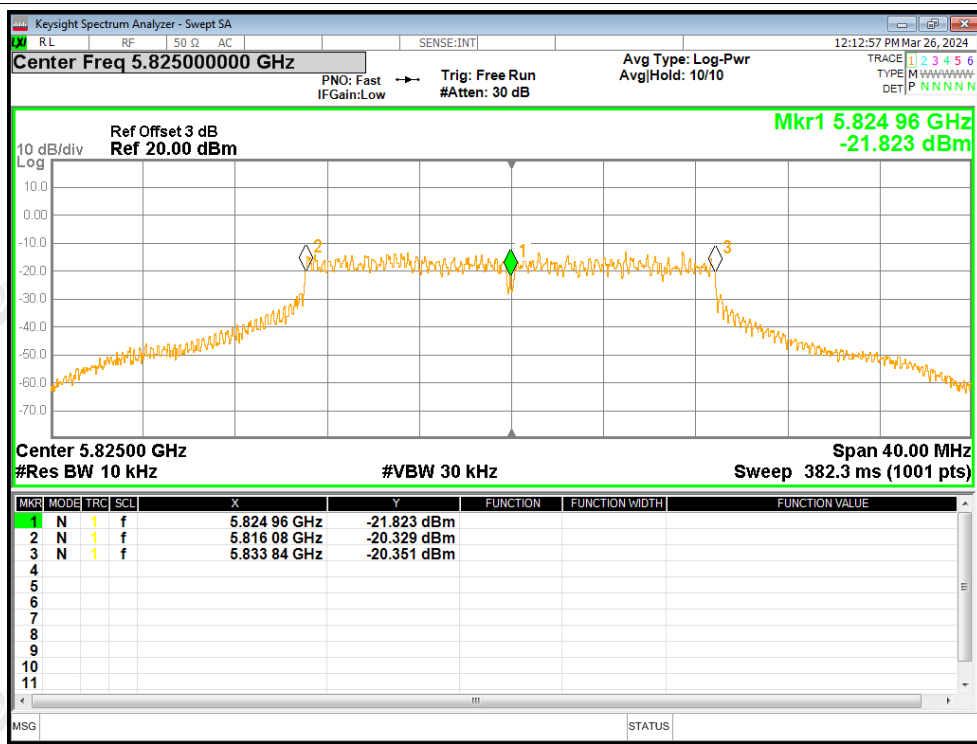




Freq. Stability NVNT n20 5785MHz Ant1

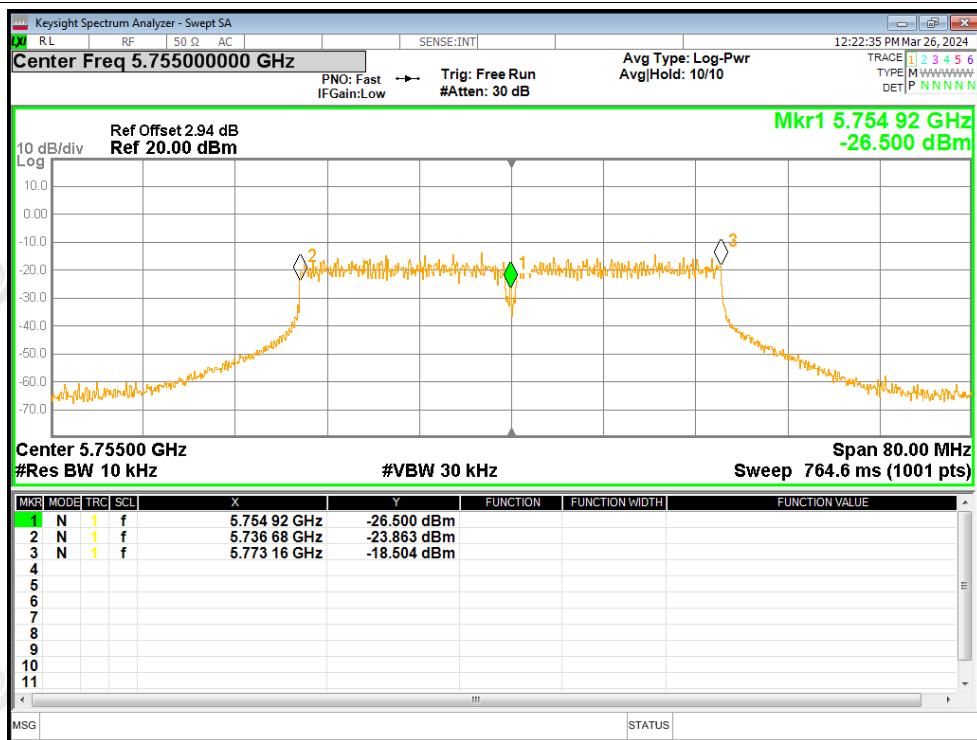


Freq. Stability NVNT n20 5825MHz Ant1

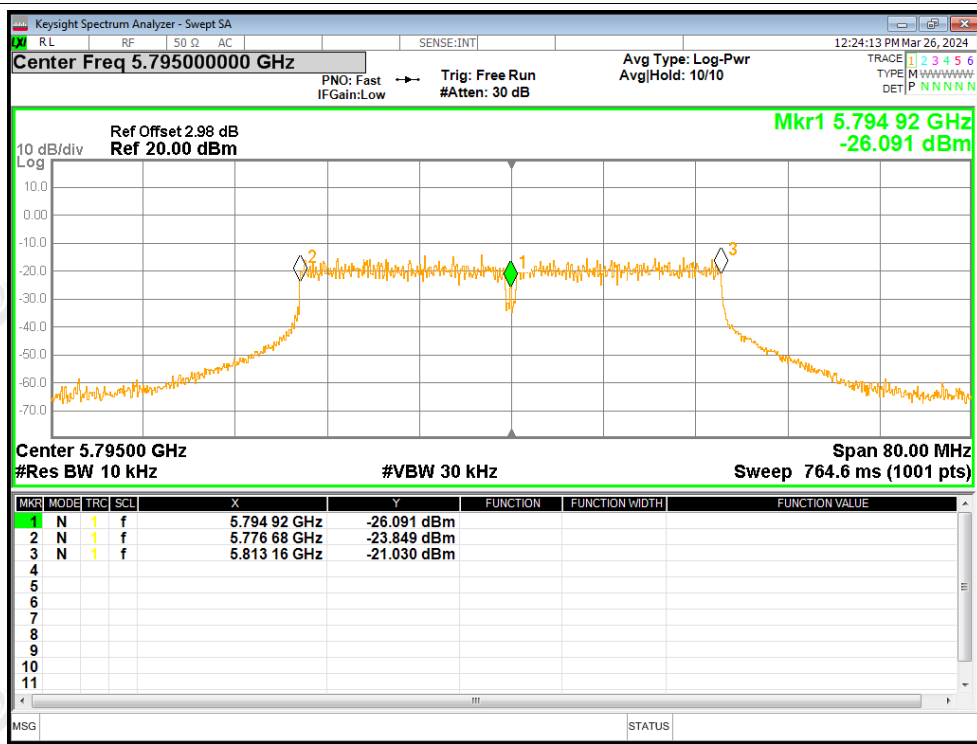




Freq. Stability NVNT n40 5755MHz Ant1

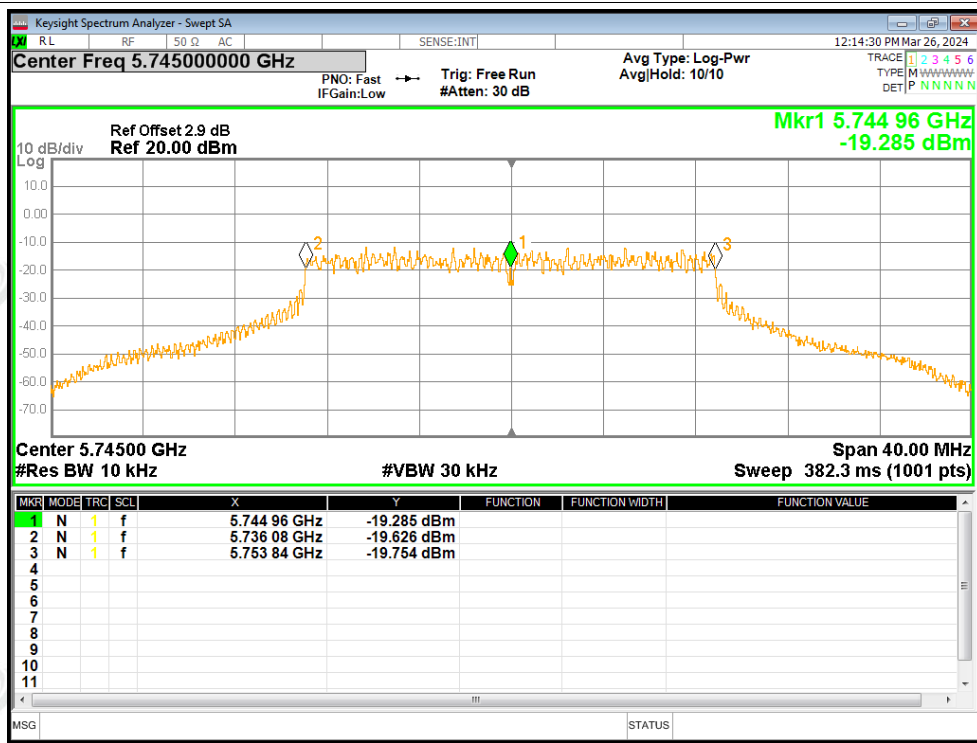


Freq. Stability NVNT n40 5795MHz Ant1

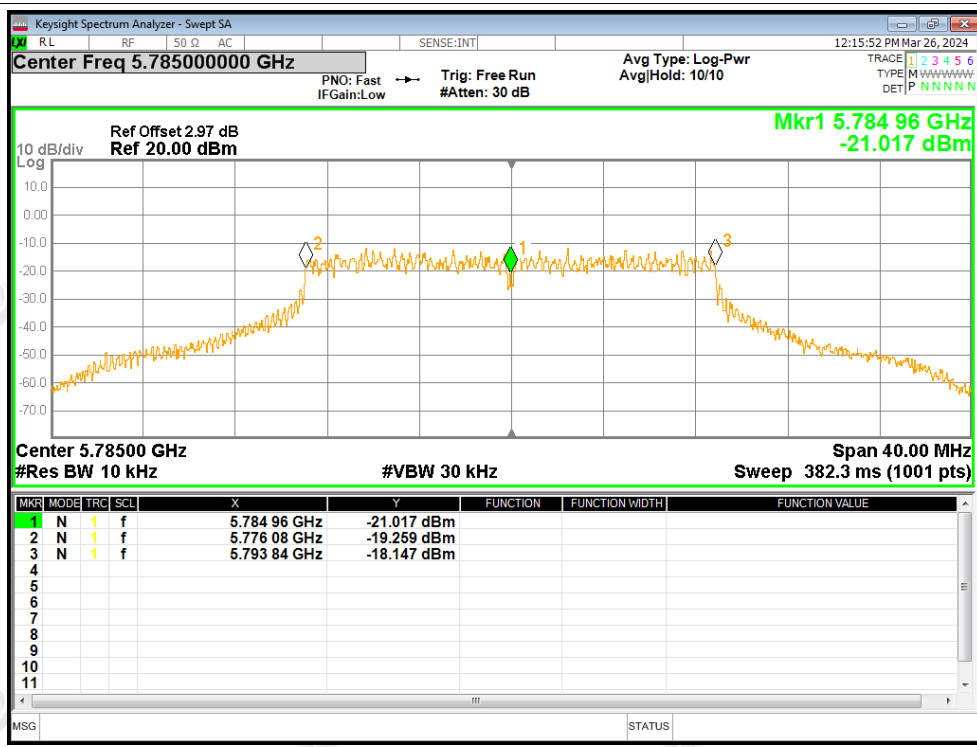




Freq. Stability NVNT ac20 5745MHz Ant1

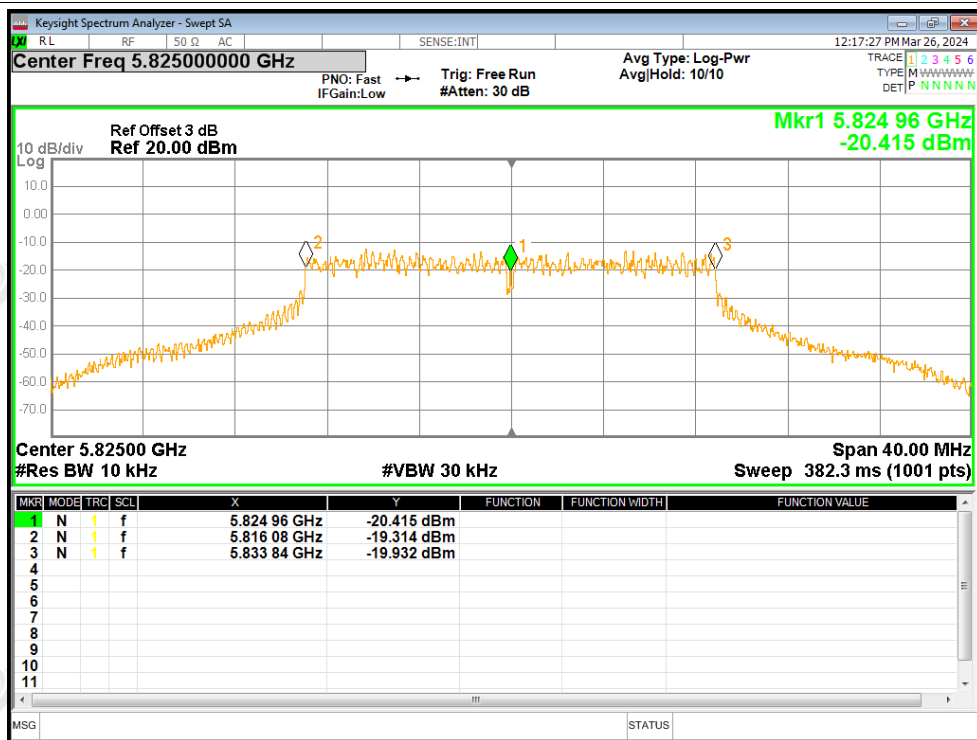


Freq. Stability NVNT ac20 5785MHz Ant1

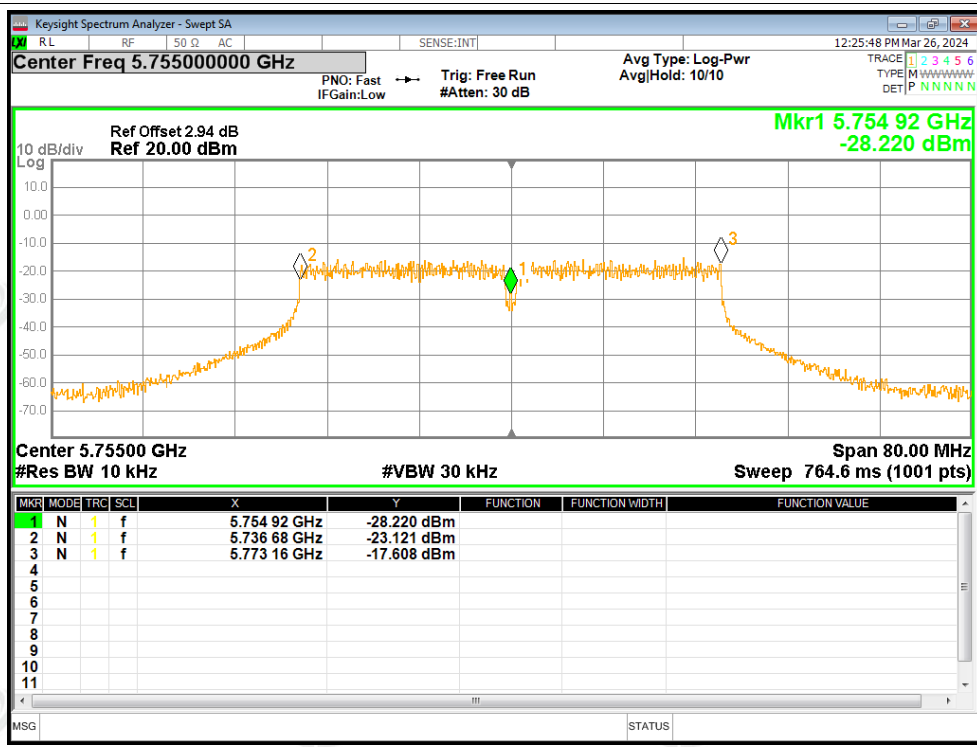


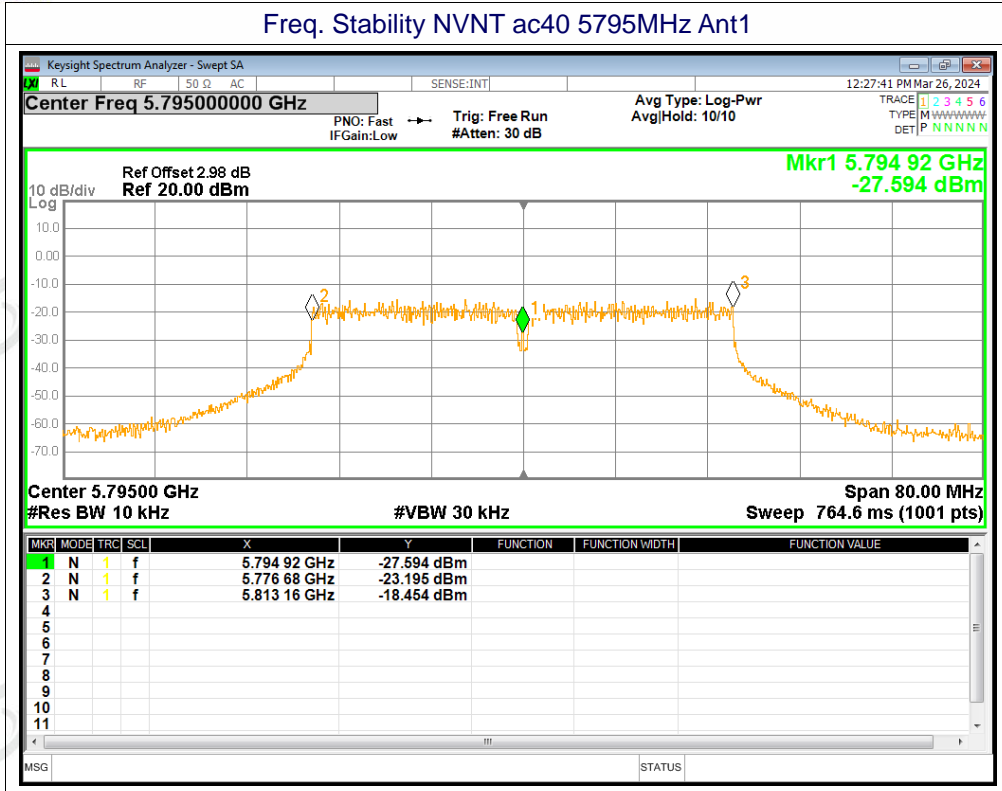


Freq. Stability NVNT ac20 5825MHz Ant1



Freq. Stability NVNT ac40 5755MHz Ant1





**ZHONGHAN****B8. Conducted RF Spurious Emission**

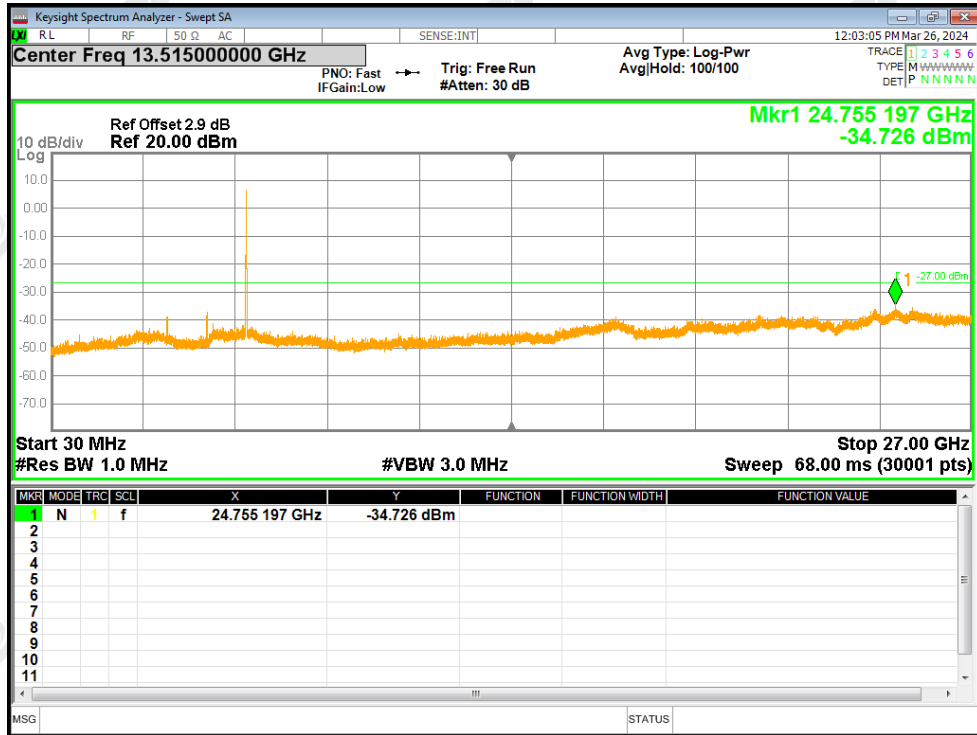
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5745	Ant1	-34.72	-27	Pass
NVNT	a	5785	Ant1	-35.67	-27	Pass
NVNT	a	5825	Ant1	-34.47	-27	Pass
NVNT	n20	5745	Ant1	-35.73	-27	Pass
NVNT	n20	5785	Ant1	-35.2	-27	Pass
NVNT	n20	5825	Ant1	-34.87	-27	Pass
NVNT	n40	5755	Ant1	-35.13	-27	Pass
NVNT	n40	5795	Ant1	-33.93	-27	Pass
NVNT	ac20	5745	Ant1	-35.47	-27	Pass
NVNT	ac20	5785	Ant1	-35.06	-27	Pass
NVNT	ac20	5825	Ant1	-34.99	-27	Pass
NVNT	ac40	5755	Ant1	-34.67	-27	Pass
NVNT	ac40	5795	Ant1	-34.1	-27	Pass



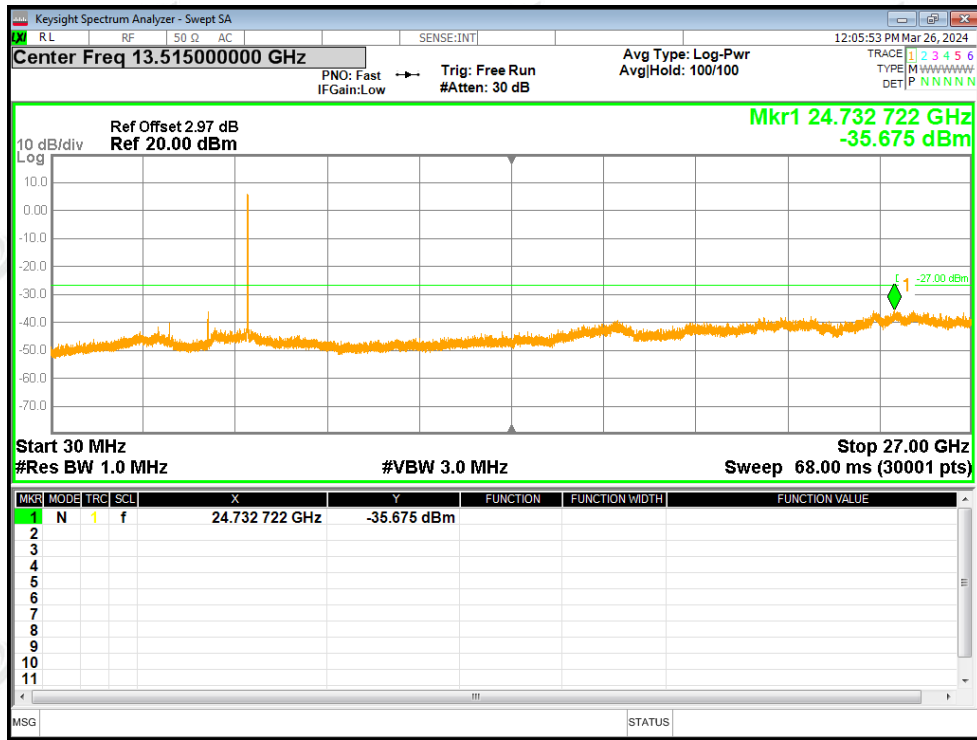


Test Graphs

Tx. Spurious NVNT a 5745MHz Ant1 Emission

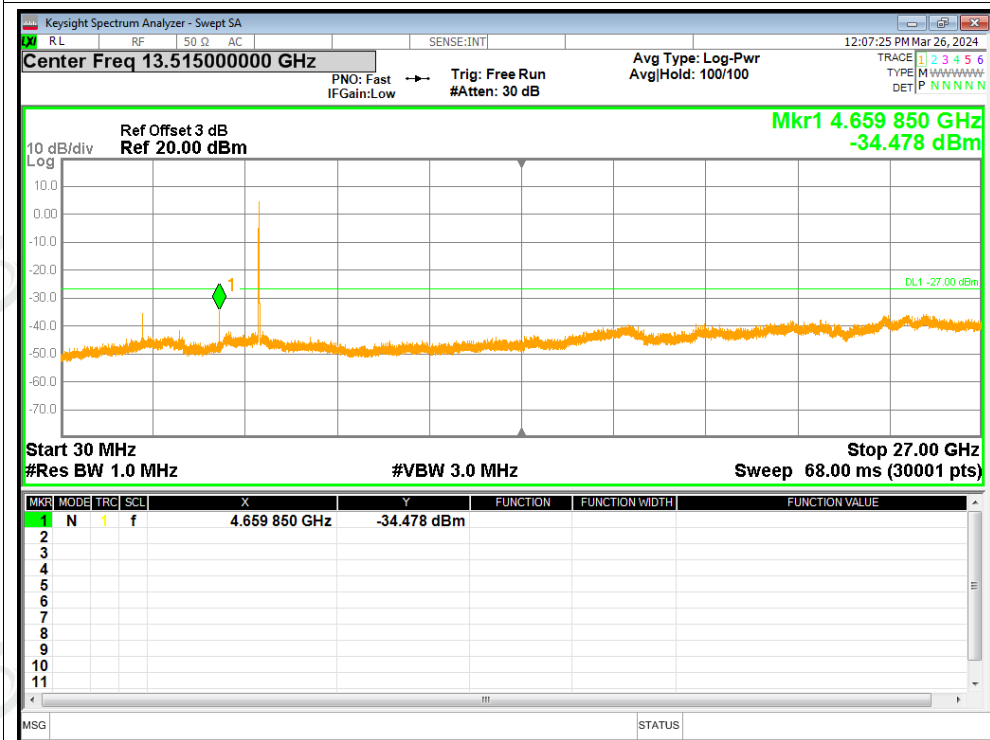


Tx. Spurious NVNT a 5785MHz Ant1 Emission

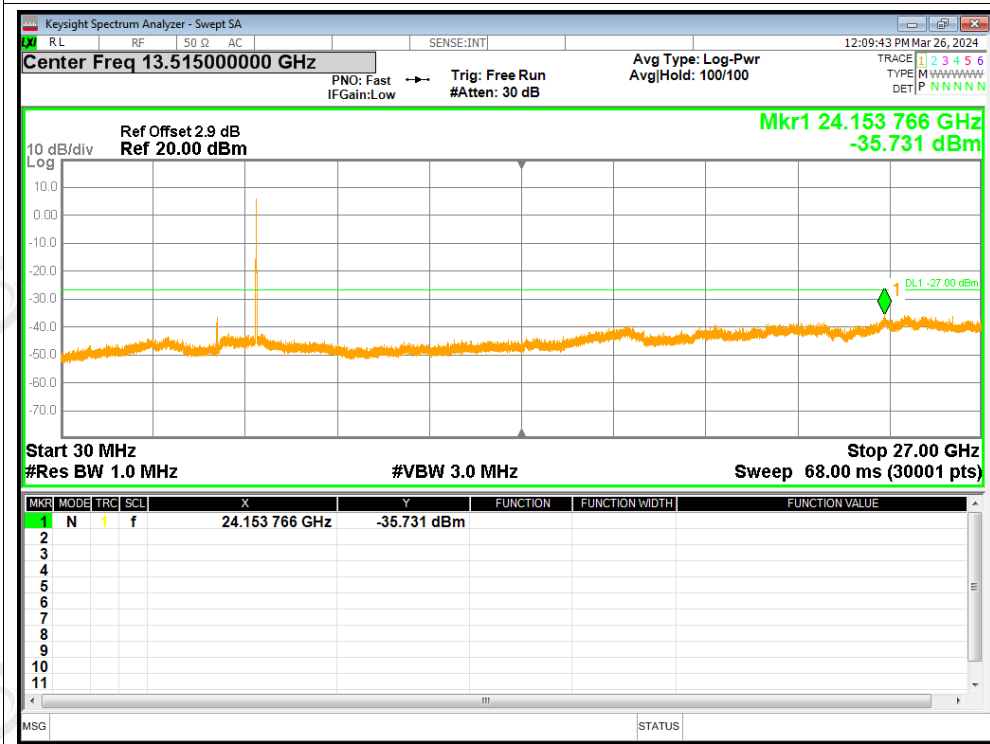




Tx. Spurious NVNT a 5825MHz Ant1 Emission

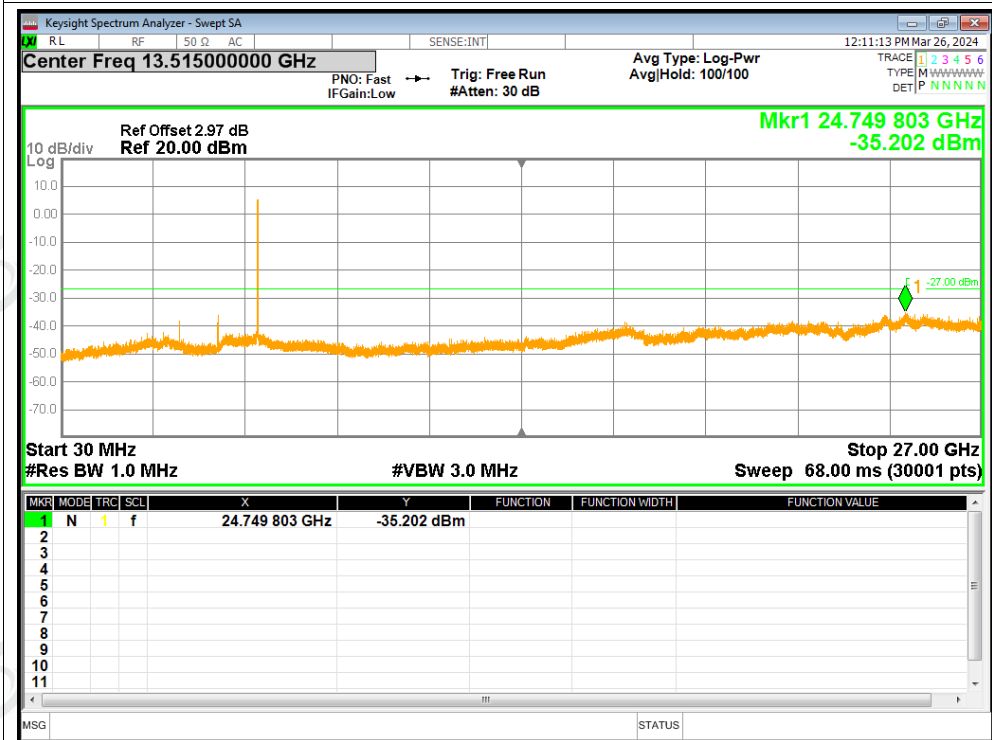


Tx. Spurious NVNT n20 5745MHz Ant1 Emission

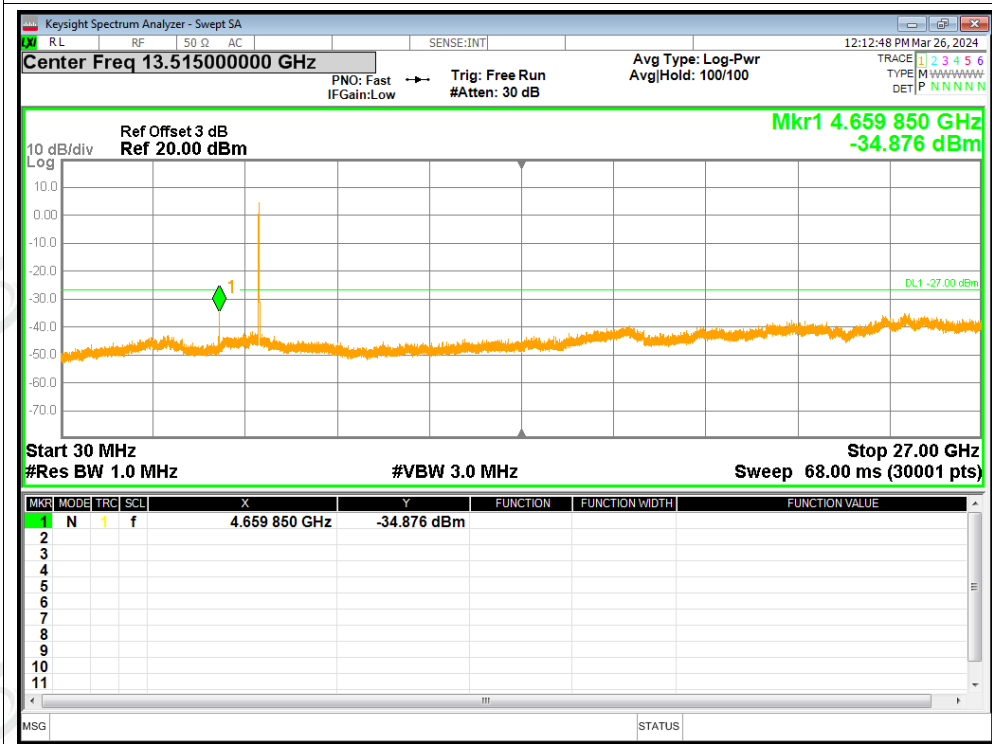




Tx. Spurious NVNT n20 5785MHz Ant1 Emission

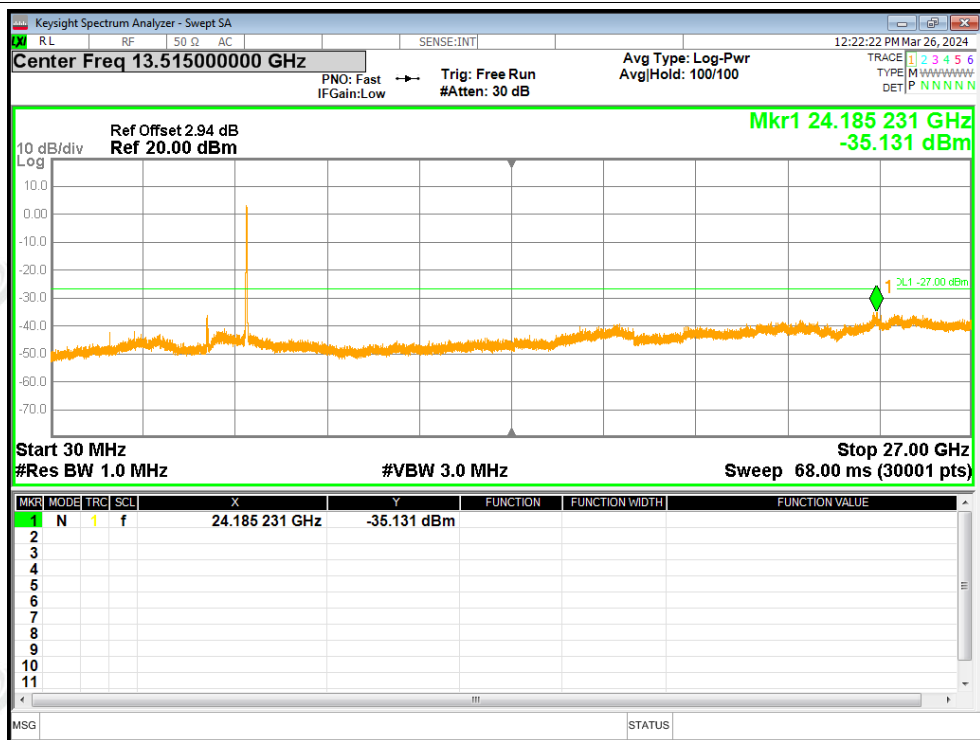


Tx. Spurious NVNT n20 5825MHz Ant1 Emission

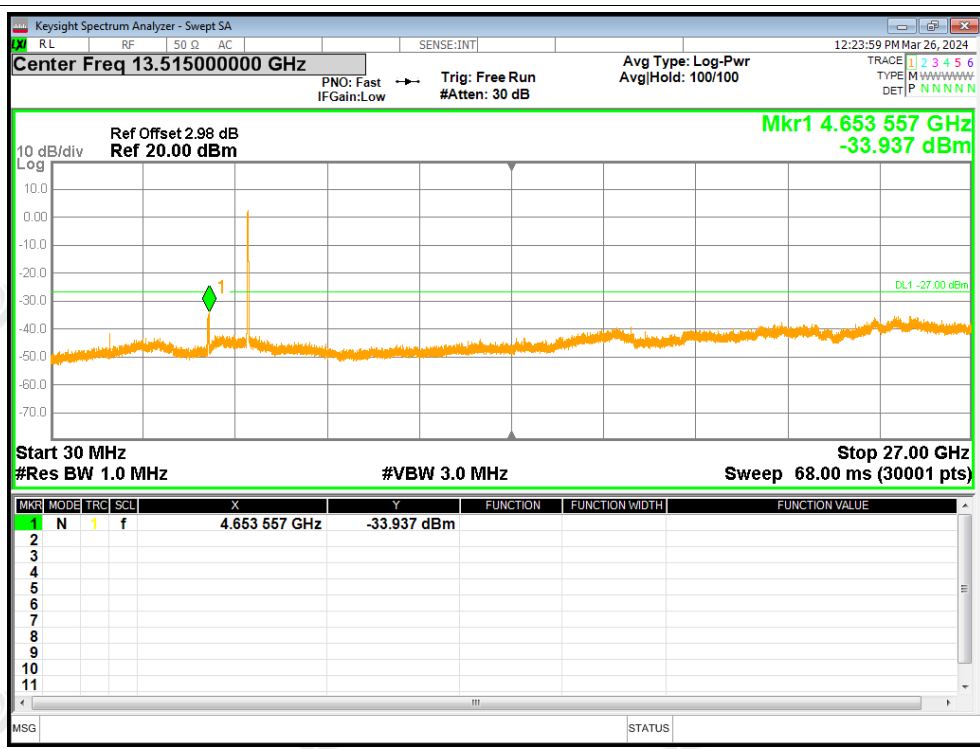




Tx. Spurious NVNT n40 5755MHz Ant1 Emission

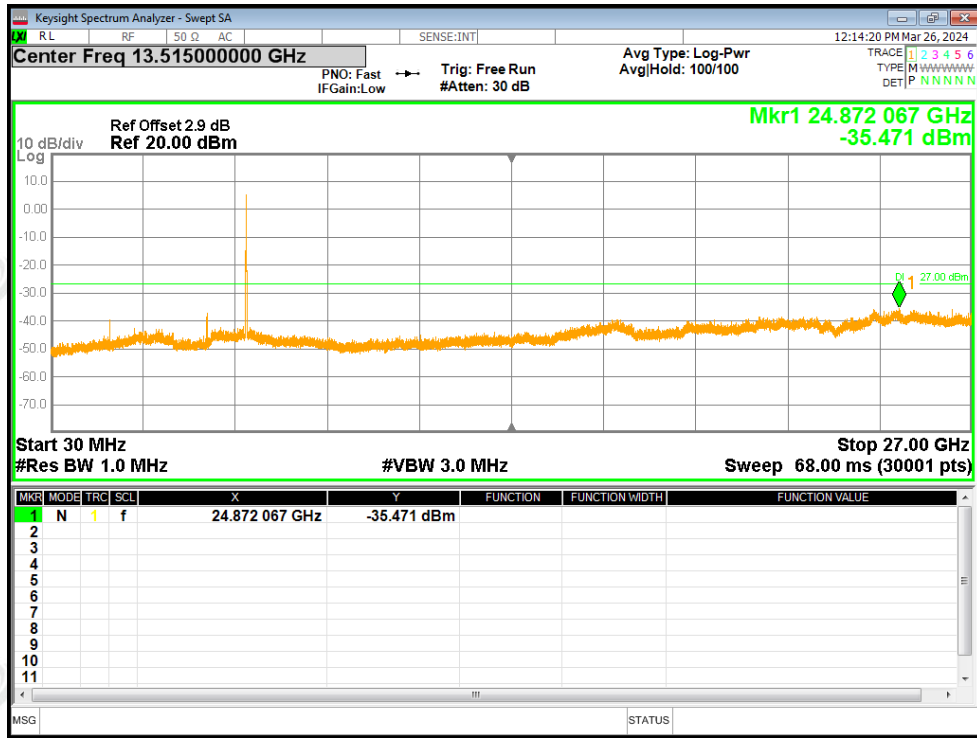


Tx. Spurious NVNT n40 5795MHz Ant1 Emission

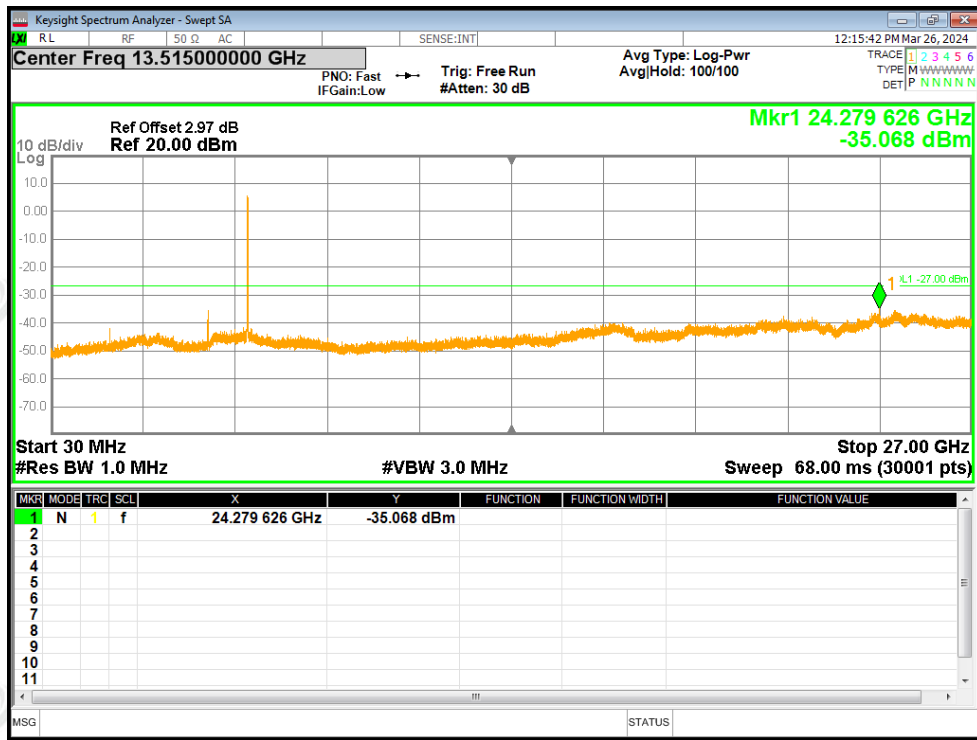




Tx. Spurious NVNT ac20 5745MHz Ant1 Emission

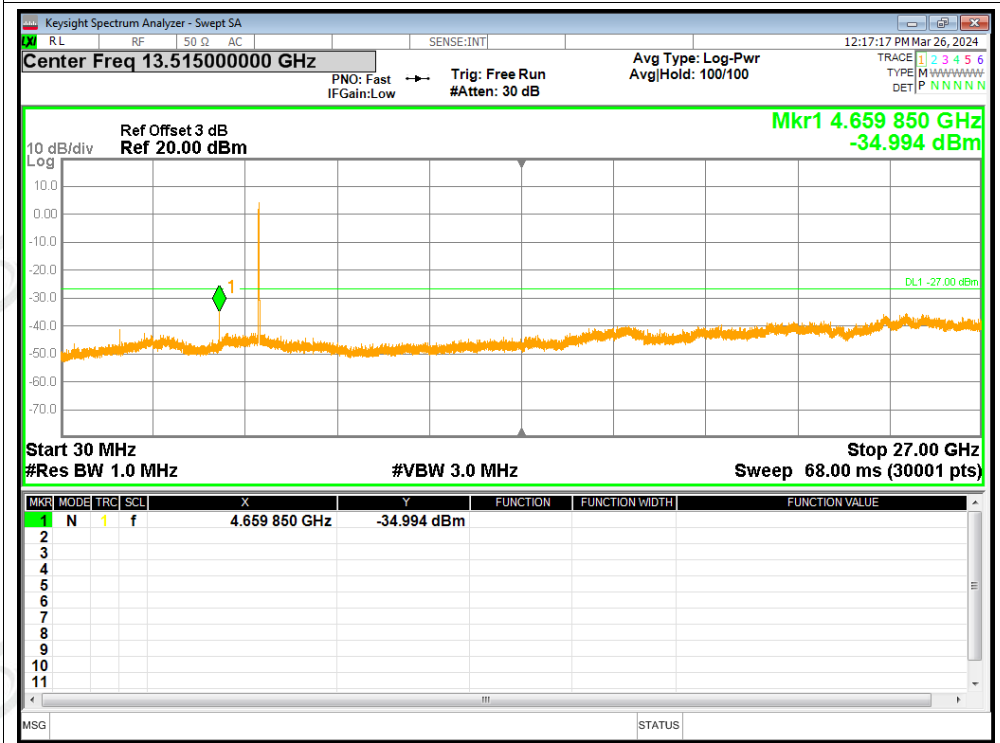


Tx. Spurious NVNT ac20 5785MHz Ant1 Emission





Tx. Spurious NVNT ac20 5825MHz Ant1 Emission



Tx. Spurious NVNT ac40 5755MHz Ant1 Emission

