

Appendix B for 5.8GWIFI Test Data

Product Name: Car Navigation Multimedia Receiver

Test Model: A5LG110T

Environmental Conditions

Temperature:	25.4℃
Relative Humidity:	54.3%
ATM Pressure:	101.0 kPa
Test Engineer:	Kimi Lu
Supervised by:	Baret Wu

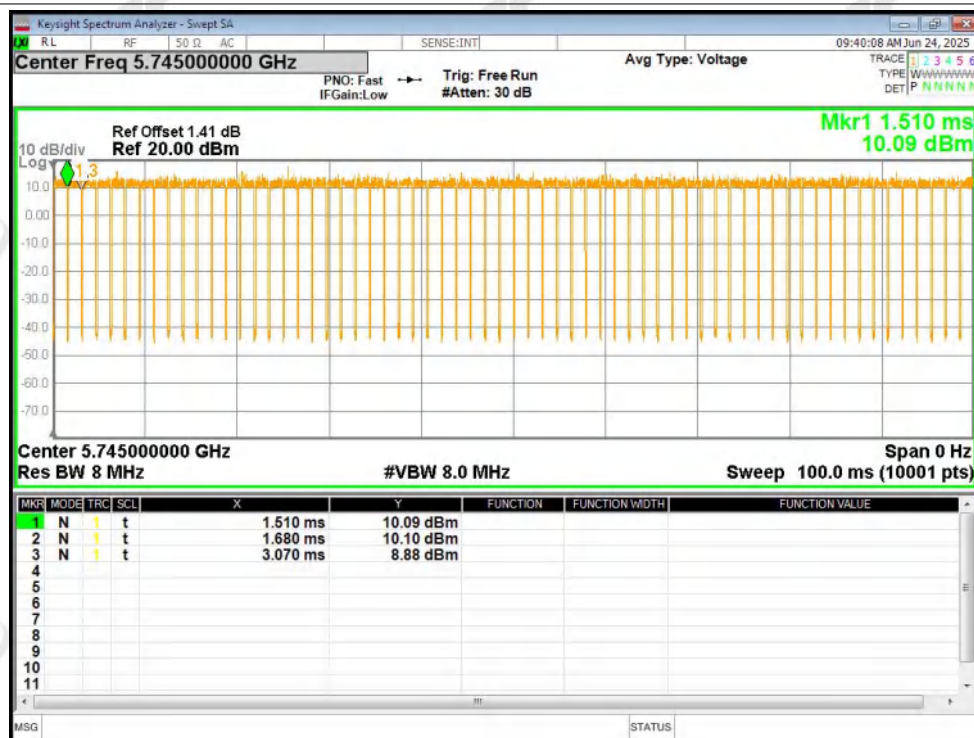


Duty Cycle

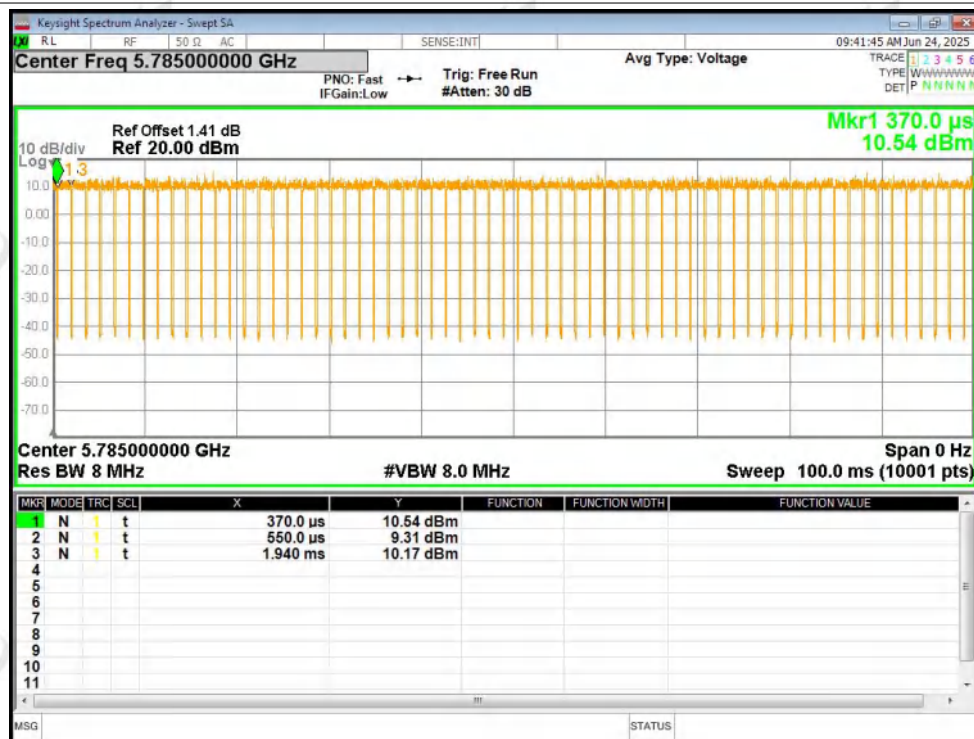
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	89.1	0.5	0.72
NVNT	a	5785	Ant1	88.54	0.53	0.72
NVNT	a	5825	Ant1	89.1	0.5	0.72
NVNT	n20	5745	Ant1	88.35	0.54	0.78
NVNT	n20	5785	Ant1	88.36	0.54	0.78
NVNT	n20	5825	Ant1	88.28	0.54	0.78
NVNT	n40	5755	Ant1	78.75	1.04	1.59
NVNT	n40	5795	Ant1	78.75	1.04	1.59
NVNT	ac20	5745	Ant1	88.36	0.54	0.78
NVNT	ac20	5785	Ant1	87.67	0.57	0.78
NVNT	ac20	5825	Ant1	88.36	0.54	0.78
NVNT	ac40	5755	Ant1	79.01	1.02	1.56
NVNT	ac40	5795	Ant1	78.75	1.04	1.59

Test Graphs

Duty Cycle NVNT a 5745MHz Ant1

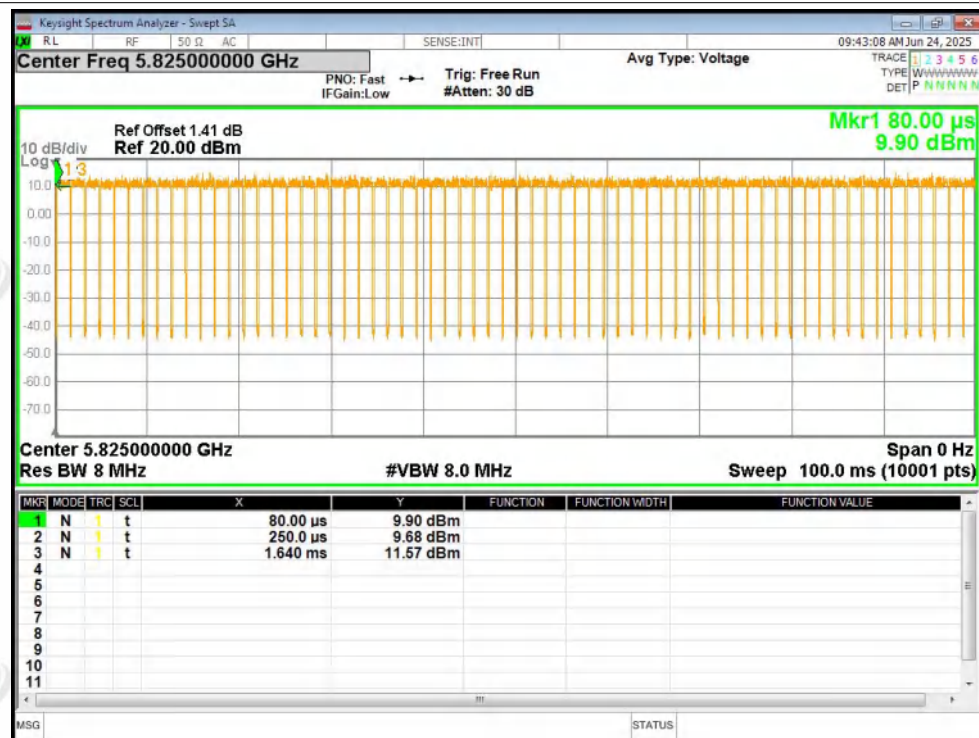


Duty Cycle NVNT a 5785MHz Ant1

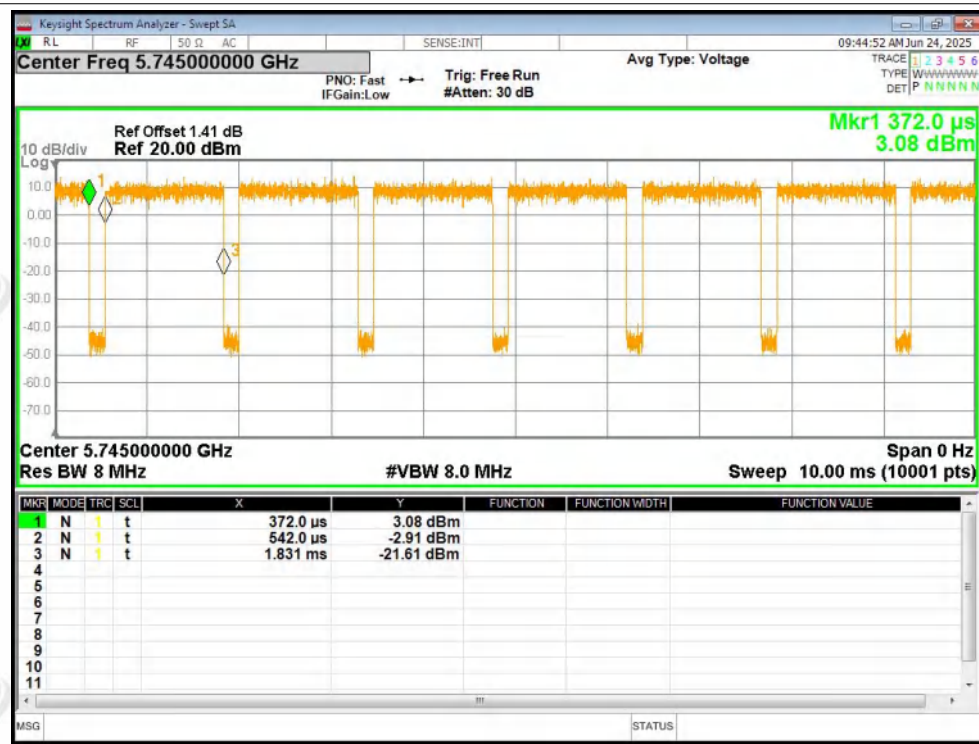




Duty Cycle NVNT a 5825MHz Ant1

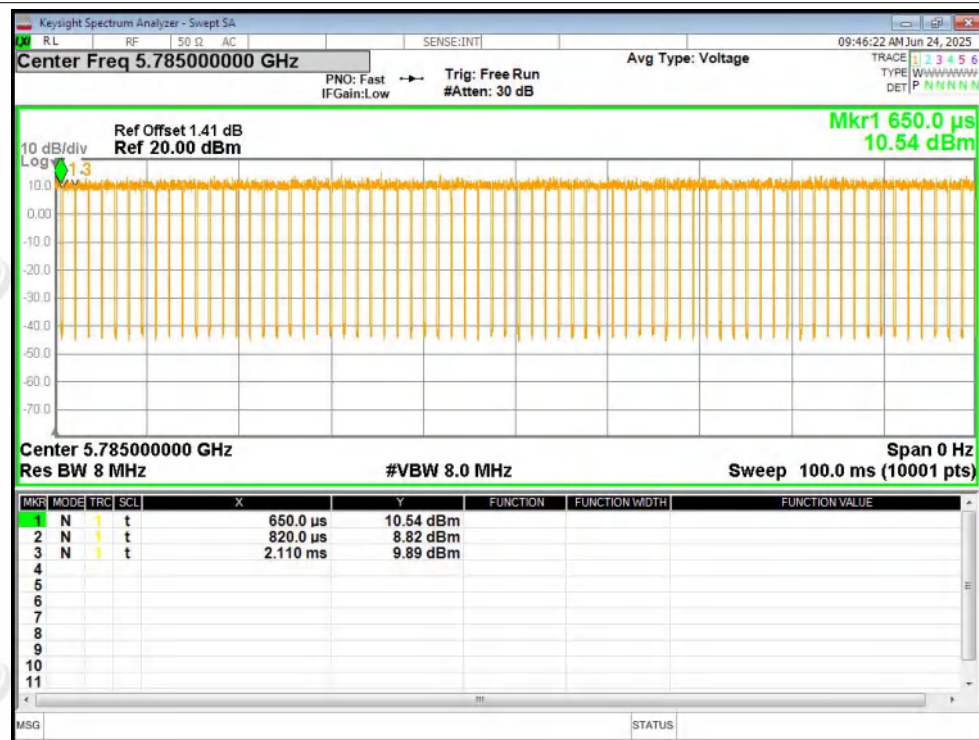


Duty Cycle NVNT n20 5745MHz Ant1

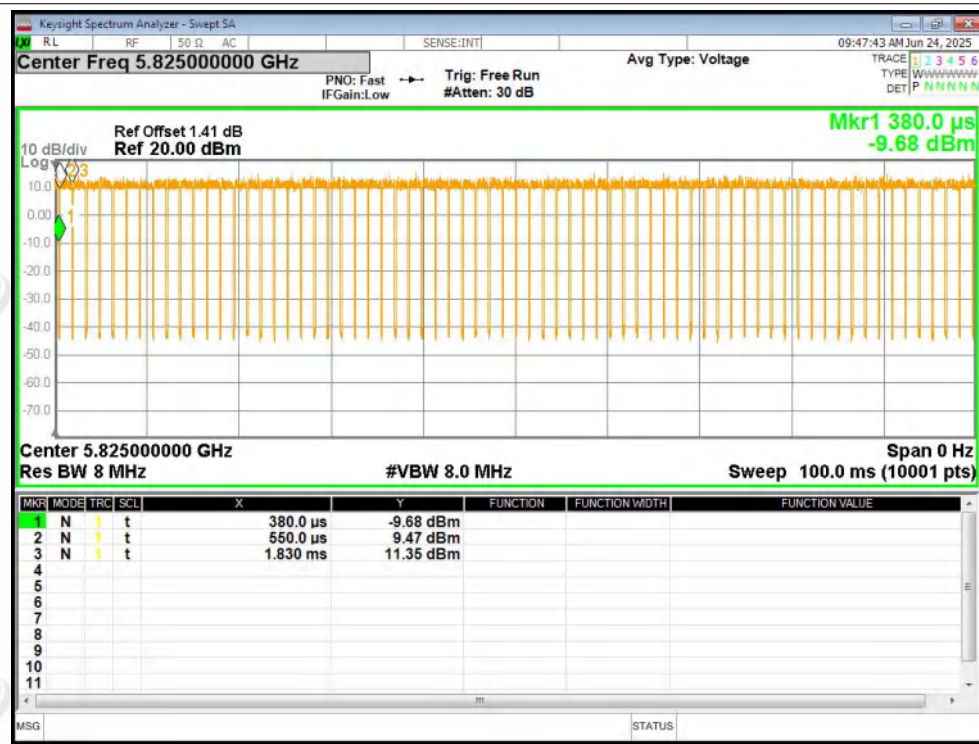




Duty Cycle NVNT n20 5785MHz Ant1

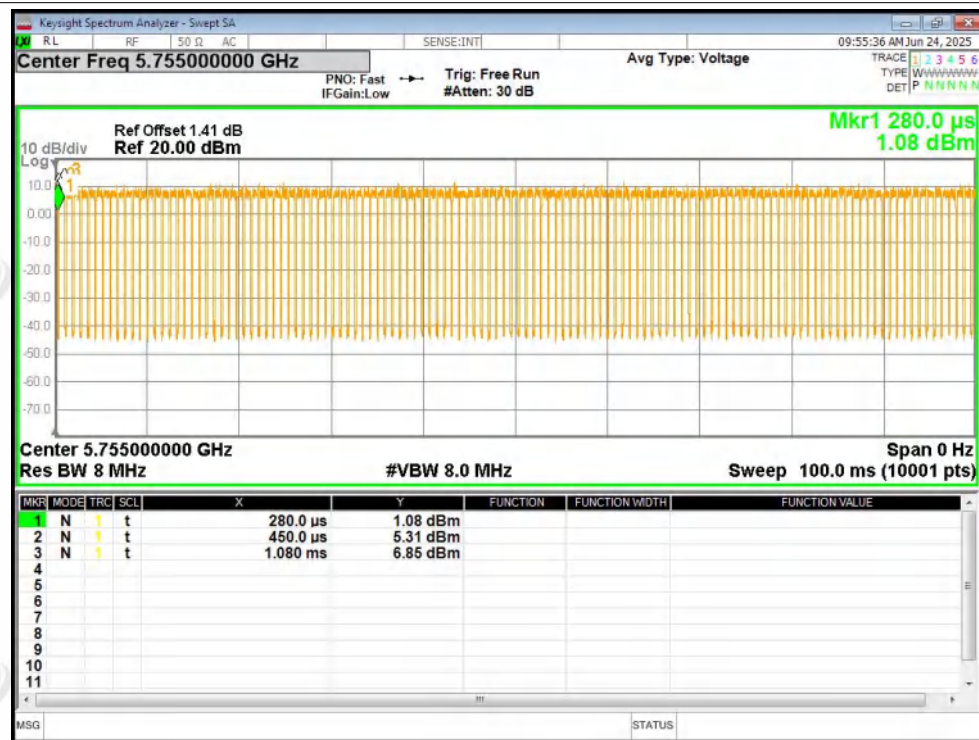


Duty Cycle NVNT n20 5825MHz Ant1

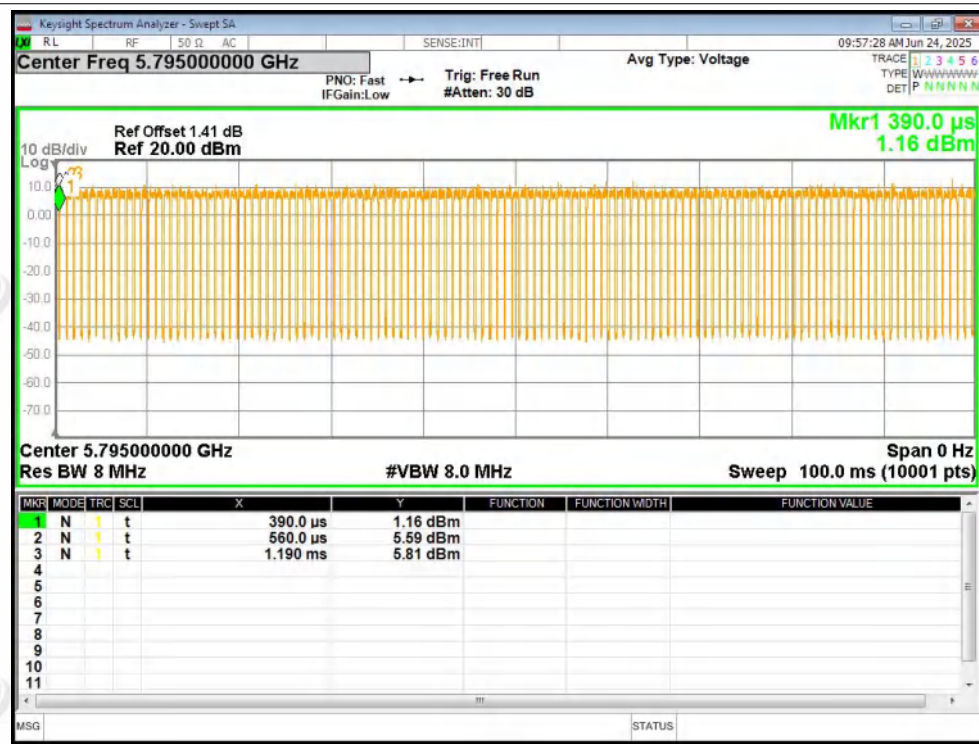




Duty Cycle NVNT n40 5755MHz Ant1

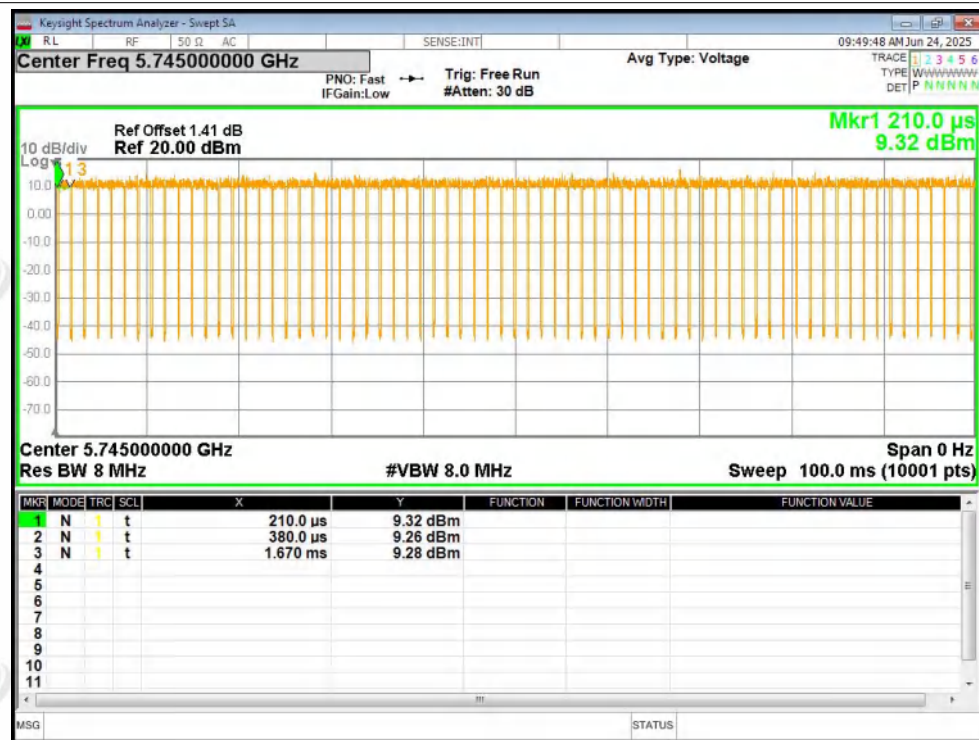


Duty Cycle NVNT n40 5795MHz Ant1

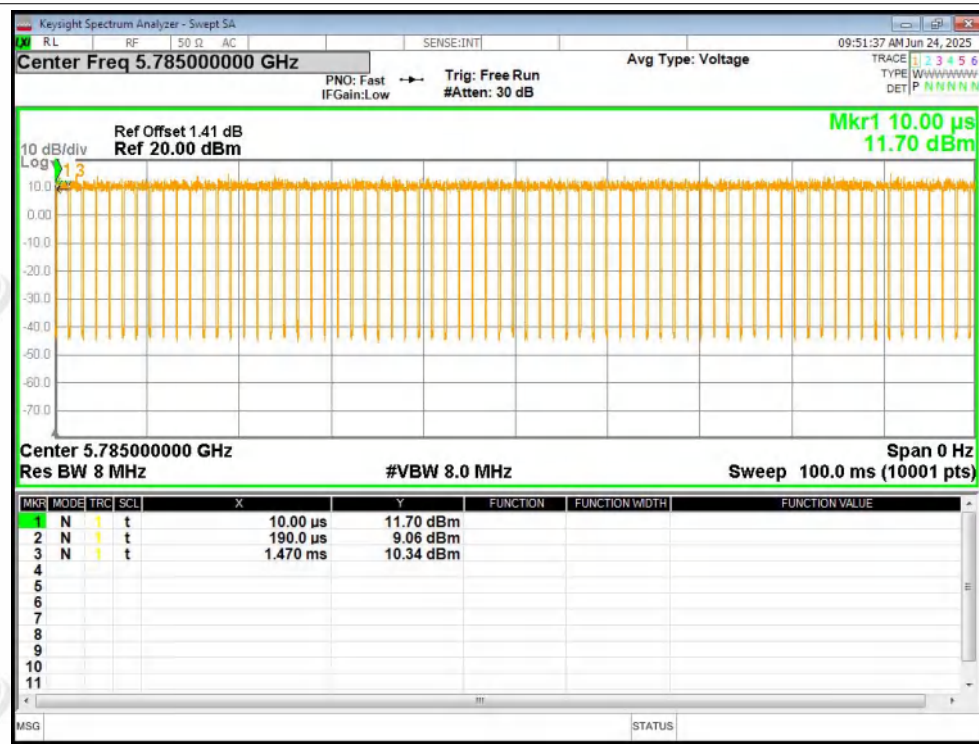




Duty Cycle NVNT ac20 5745MHz Ant1

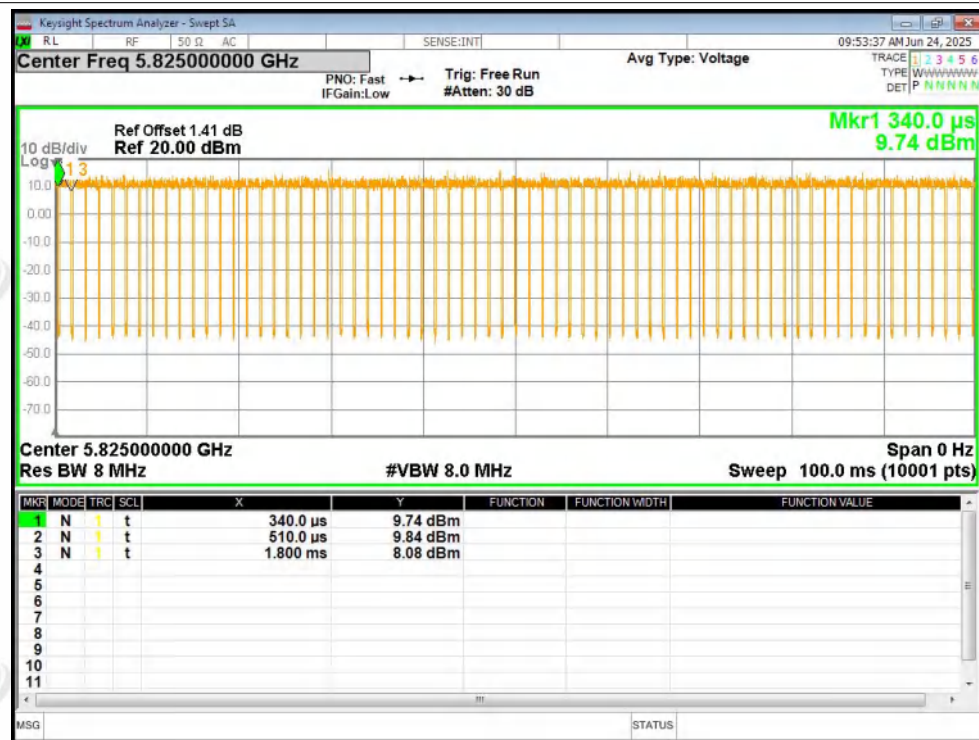


Duty Cycle NVNT ac20 5785MHz Ant1



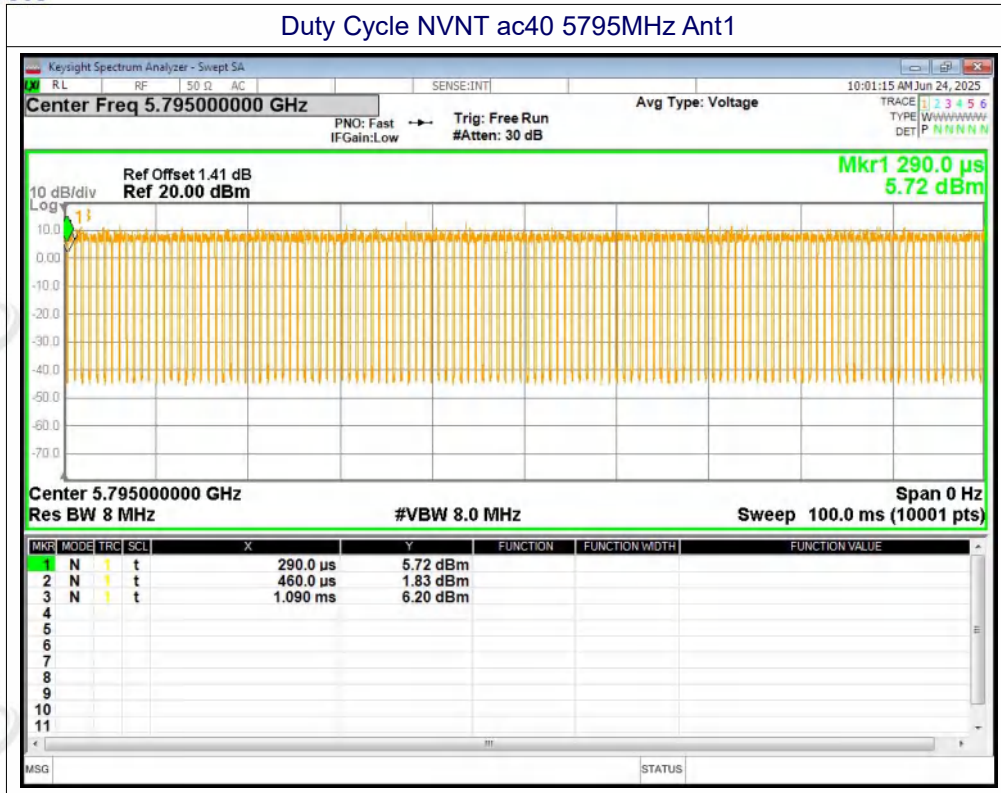


Duty Cycle NVNT ac20 5825MHz Ant1



Duty Cycle NVNT ac40 5755MHz Ant1





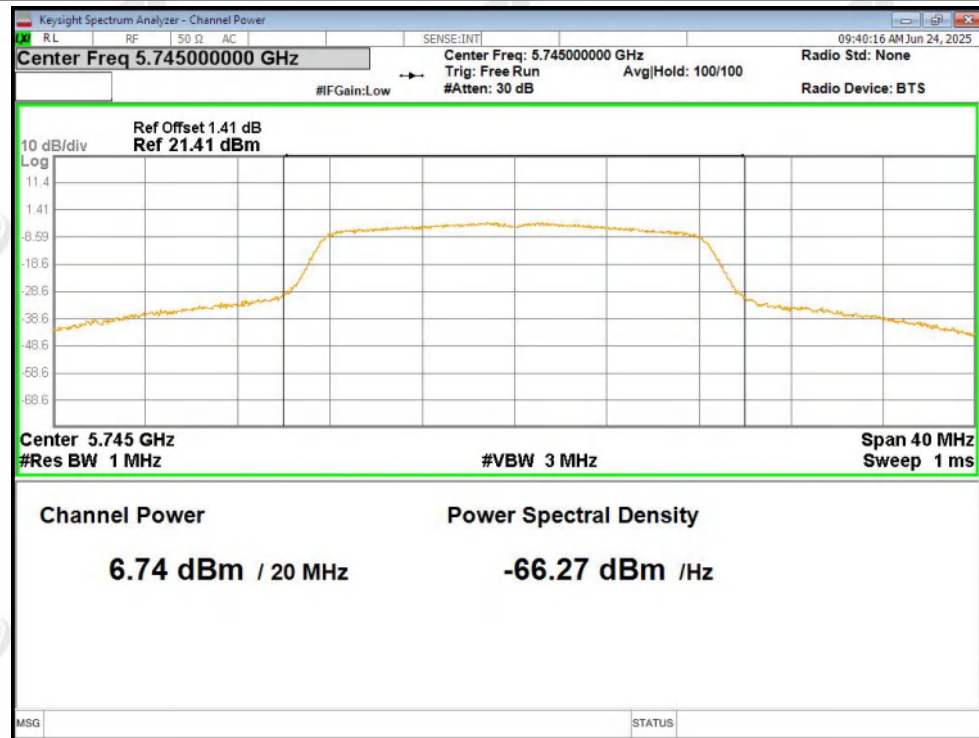
**ZHONGHAN****Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	6.74	0.5	7.24	30	Pass
NVNT	a	5785	Ant1	5.77	0.53	6.3	30	Pass
NVNT	a	5825	Ant1	6.49	0.5	6.99	30	Pass
NVNT	n20	5745	Ant1	6.16	0.54	6.7	30	Pass
NVNT	n20	5785	Ant1	5.91	0.54	6.45	30	Pass
NVNT	n20	5825	Ant1	6.5	0.54	7.04	30	Pass
NVNT	n40	5755	Ant1	6.06	1.04	7.1	30	Pass
NVNT	n40	5795	Ant1	5.79	1.04	6.83	30	Pass
NVNT	ac20	5745	Ant1	6.29	0.54	6.83	30	Pass
NVNT	ac20	5785	Ant1	6.07	0.57	6.64	30	Pass
NVNT	ac20	5825	Ant1	6.44	0.54	6.98	30	Pass
NVNT	ac40	5755	Ant1	5.93	1.02	6.95	30	Pass
NVNT	ac40	5795	Ant1	5.86	1.04	6.9	30	Pass

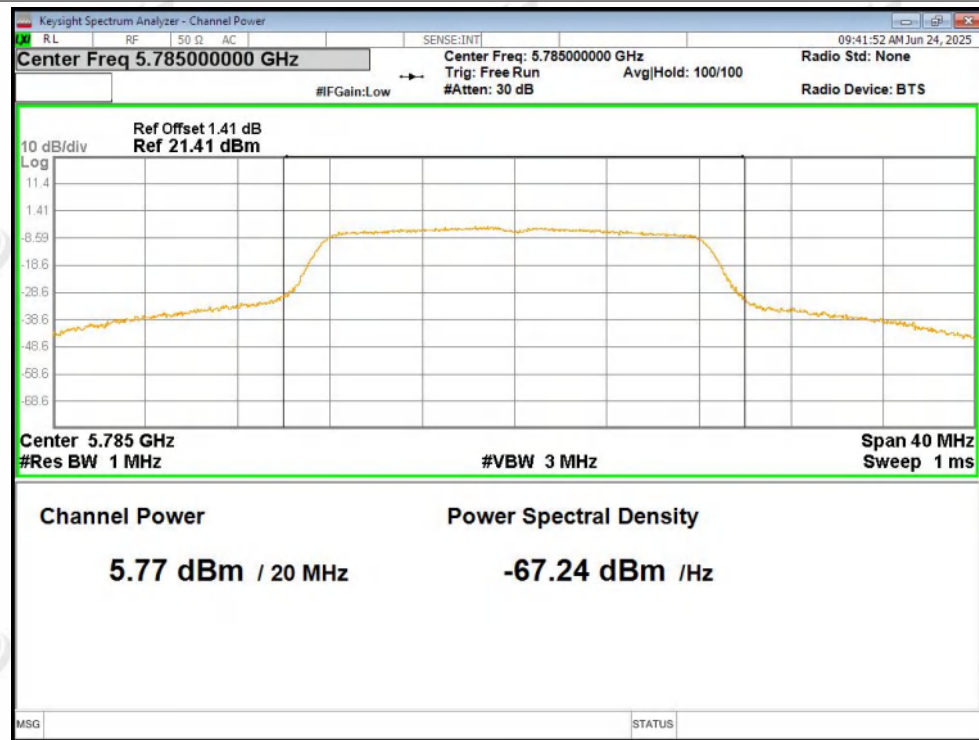


Test Graphs

Power NVNT a 5745MHz Ant1

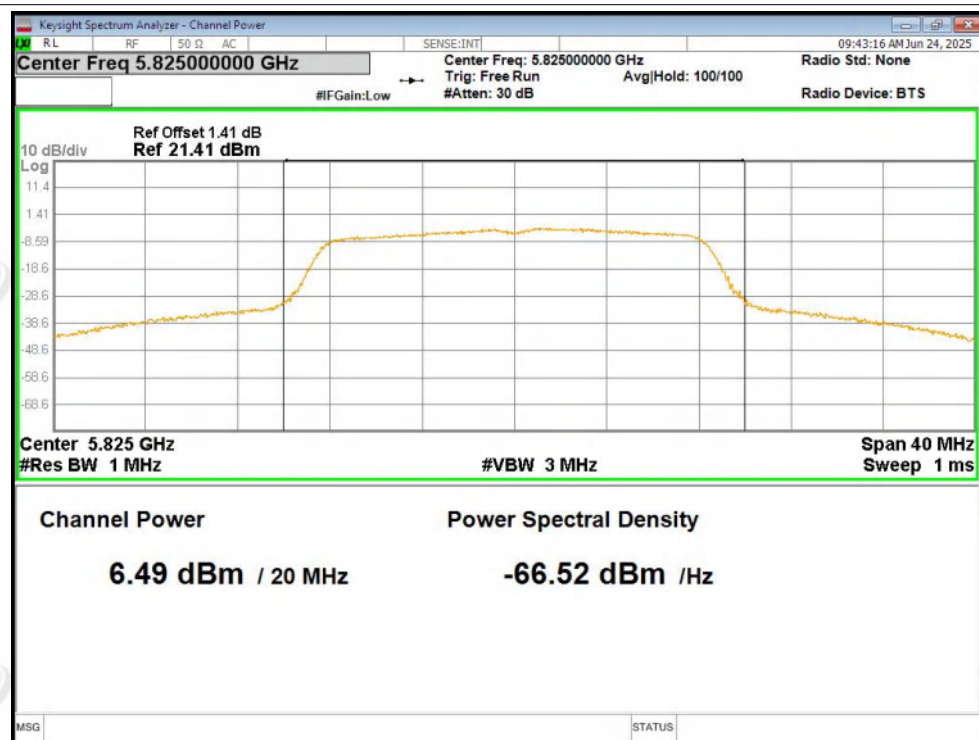


Power NVNT a 5785MHz Ant1

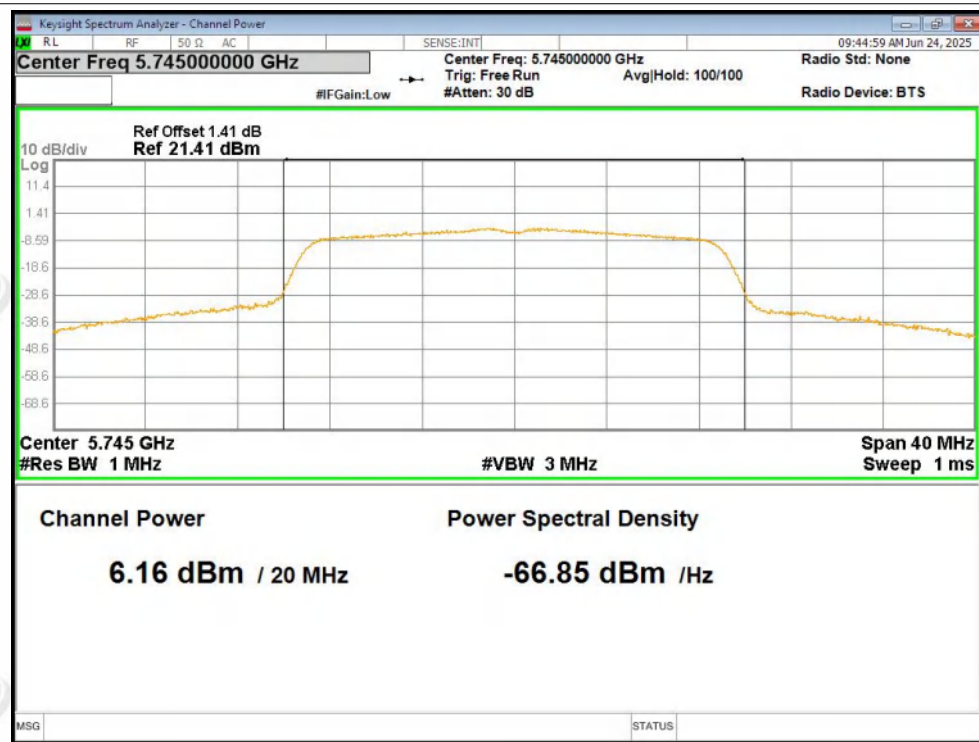




Power NVNT a 5825MHz Ant1

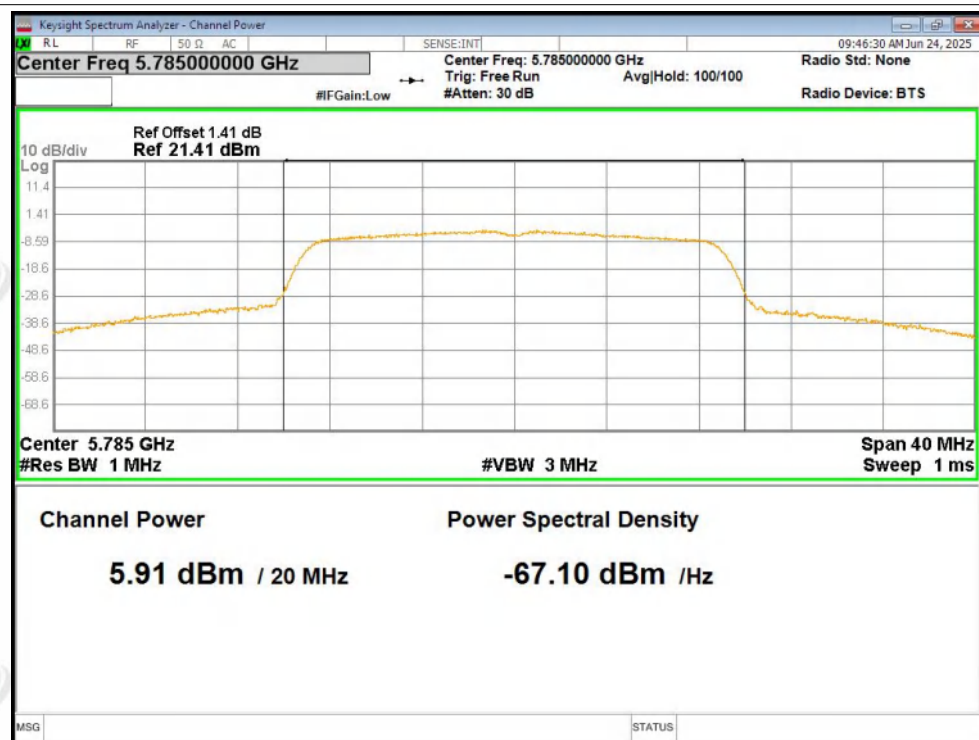


Power NVNT n20 5745MHz Ant1

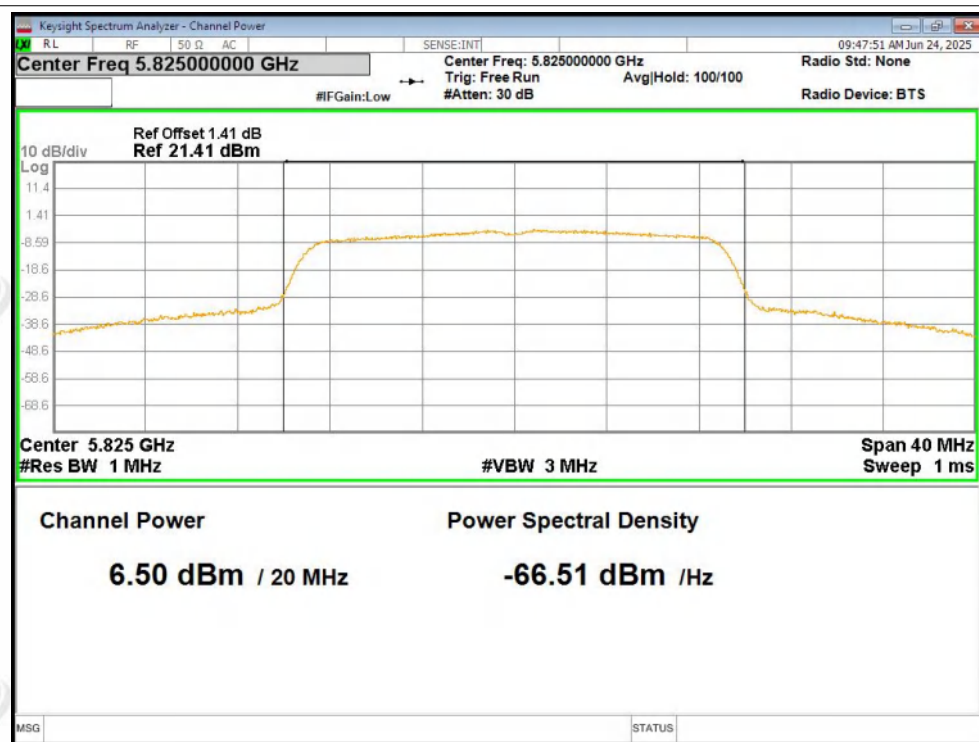




Power NVNT n20 5785MHz Ant1

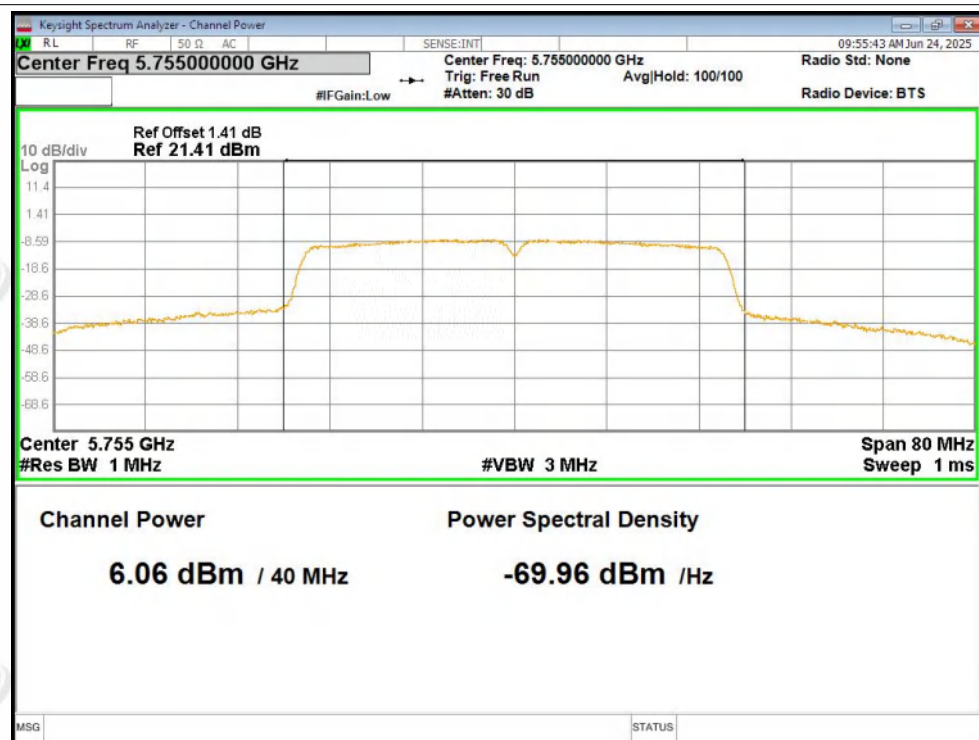


Power NVNT n20 5825MHz Ant1

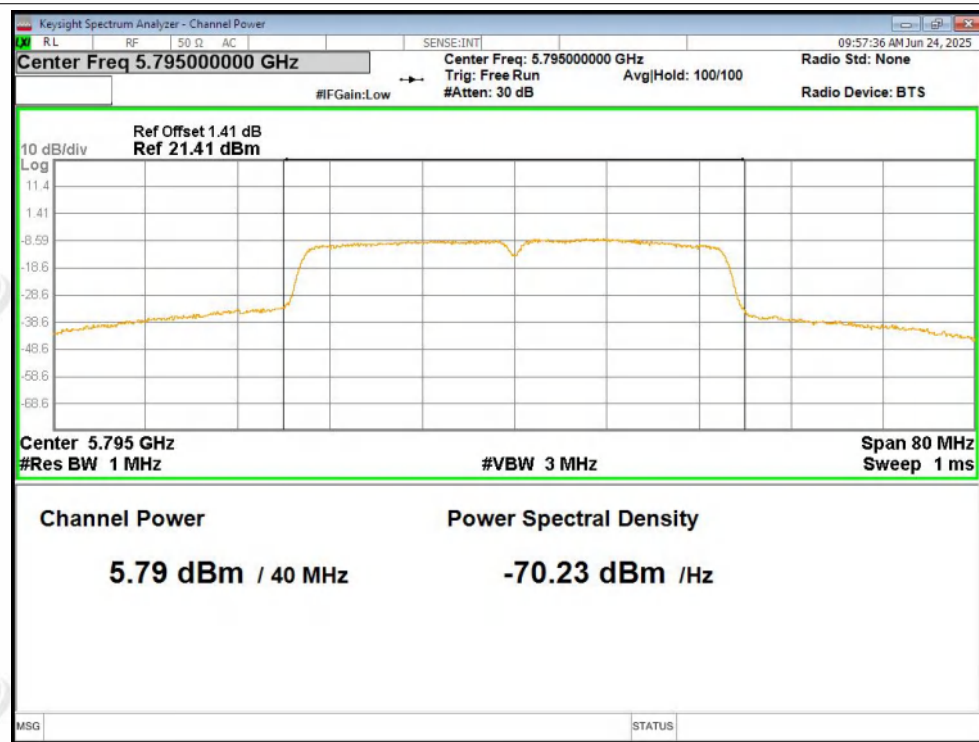




Power NVNT n40 5755MHz Ant1

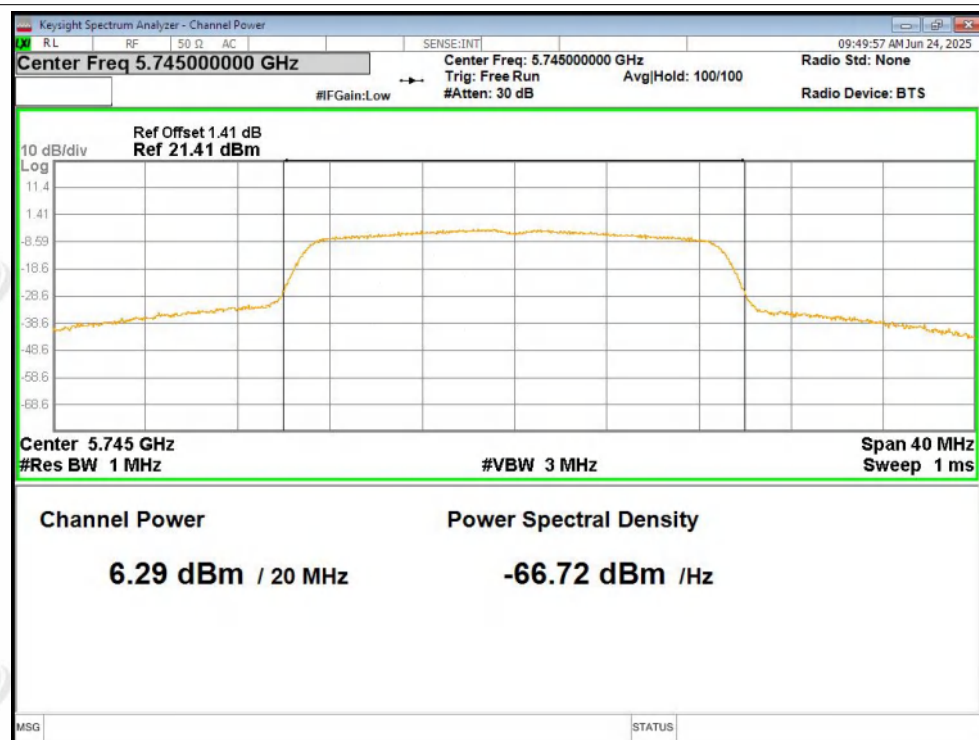


Power NVNT n40 5795MHz Ant1

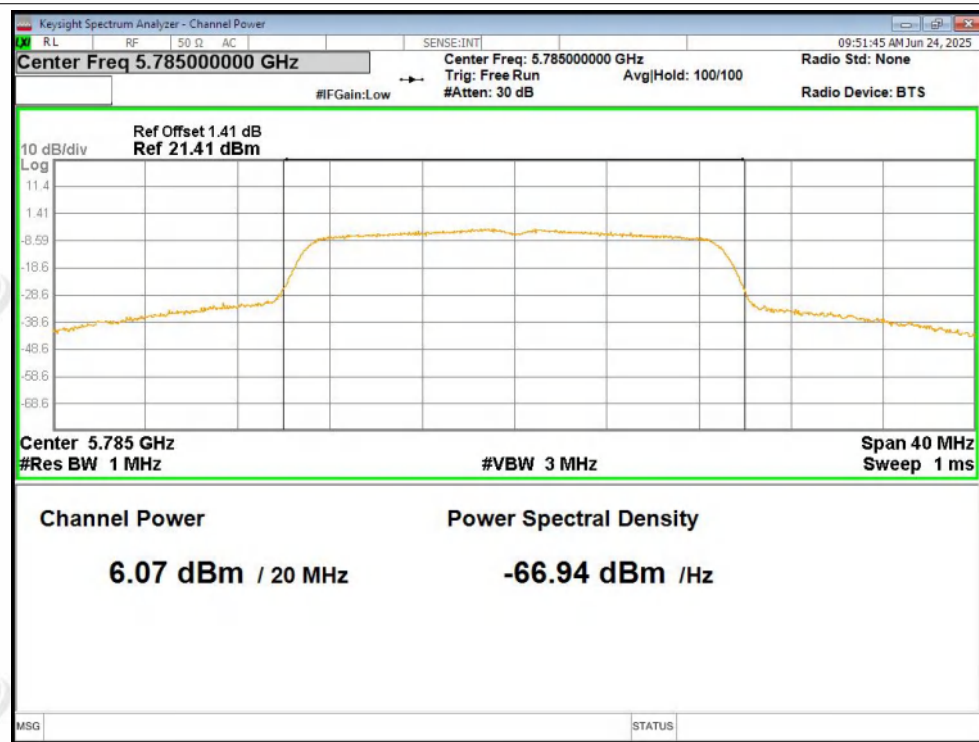




Power NVNT ac20 5745MHz Ant1

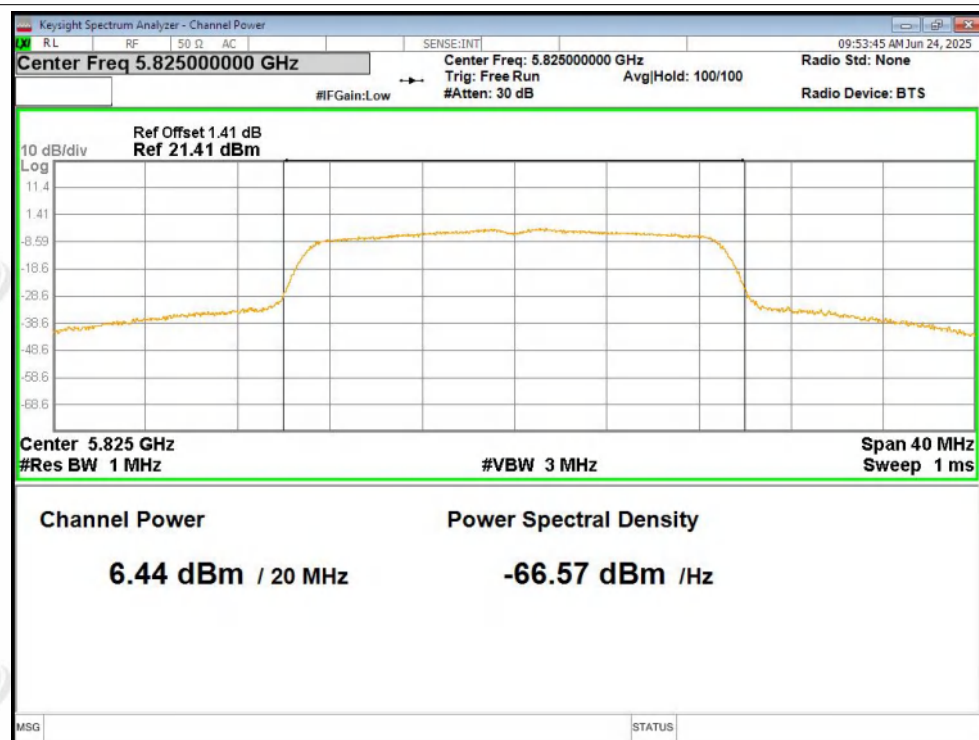


Power NVNT ac20 5785MHz Ant1

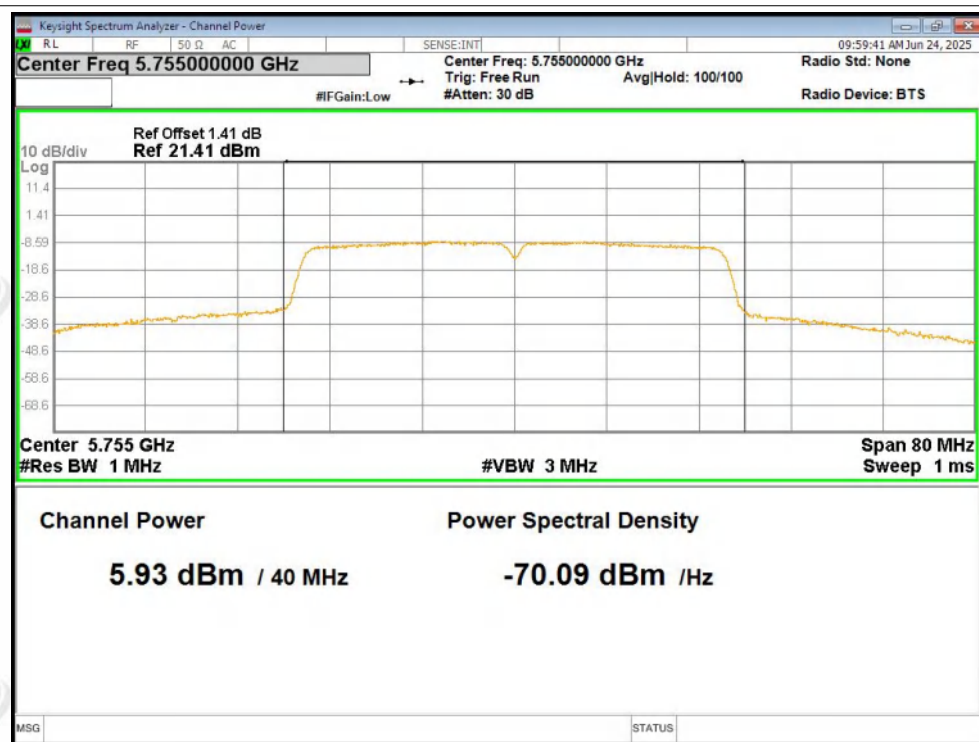




Power NVNT ac20 5825MHz Ant1

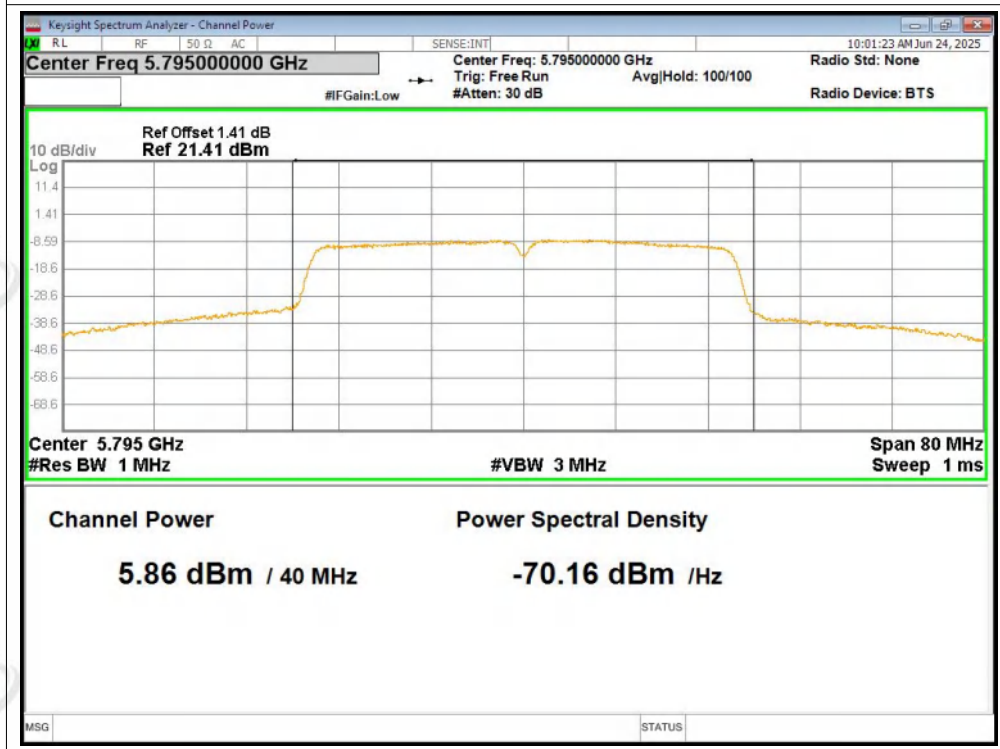


Power NVNT ac40 5755MHz Ant1





Power NVNT ac40 5795MHz Ant1



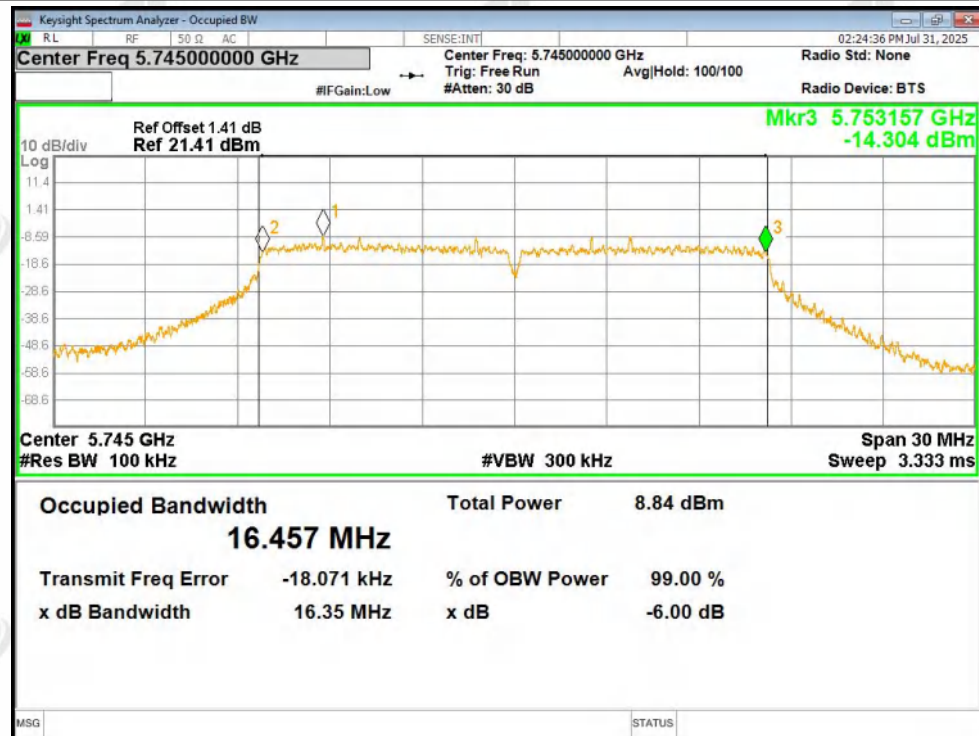
**ZHONGHAN**
-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.35	0.5	Pass
NVNT	a	5785	Ant1	16.042	0.5	Pass
NVNT	a	5825	Ant1	16.357	0.5	Pass
NVNT	n20	5745	Ant1	17.258	0.5	Pass
NVNT	n20	5785	Ant1	17.191	0.5	Pass
NVNT	n20	5825	Ant1	16.906	0.5	Pass
NVNT	n40	5755	Ant1	35.718	0.5	Pass
NVNT	n40	5795	Ant1	35.364	0.5	Pass
NVNT	ac20	5745	Ant1	17.137	0.5	Pass
NVNT	ac20	5785	Ant1	17.204	0.5	Pass
NVNT	ac20	5825	Ant1	17.549	0.5	Pass
NVNT	ac40	5755	Ant1	35.565	0.5	Pass
NVNT	ac40	5795	Ant1	35.454	0.5	Pass

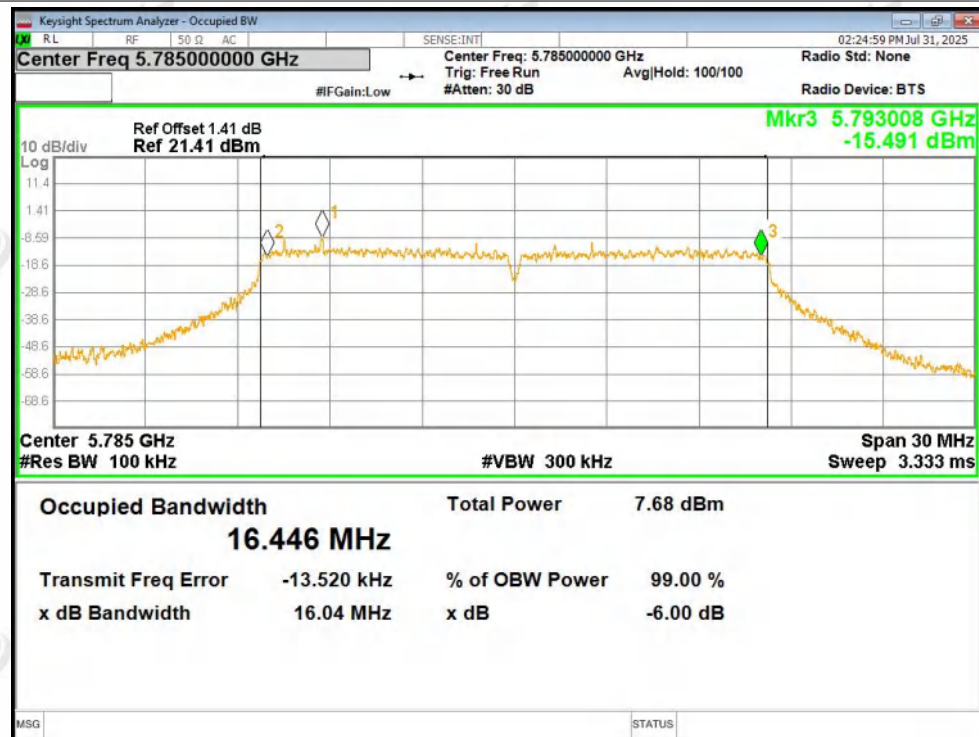


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1

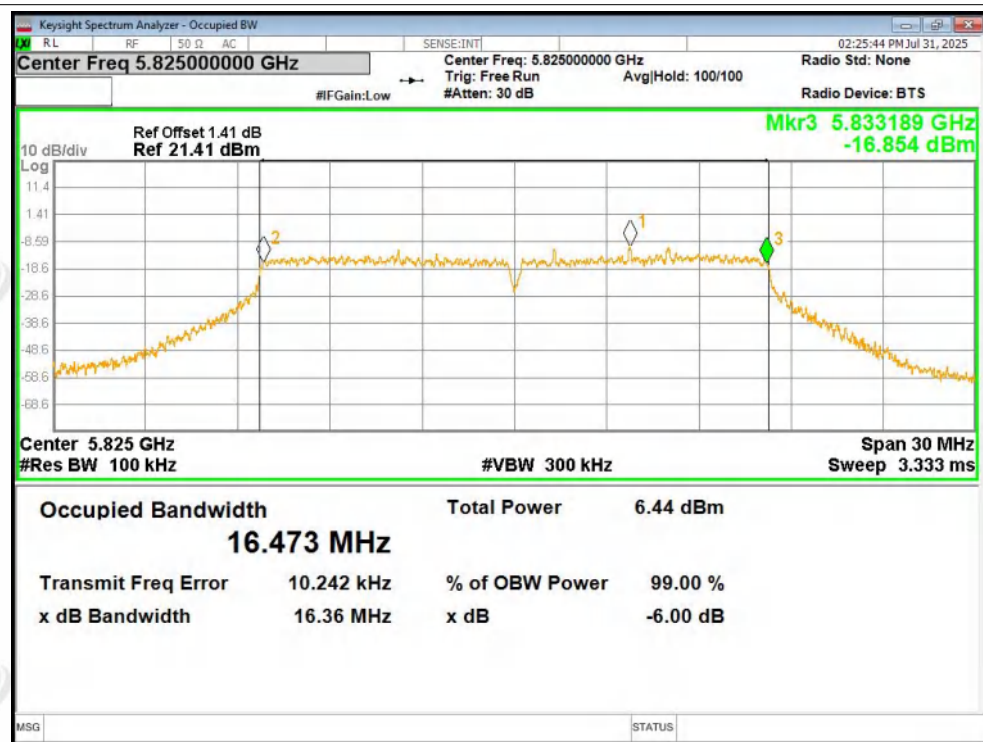


-6dB Bandwidth NVNT a 5785MHz Ant1

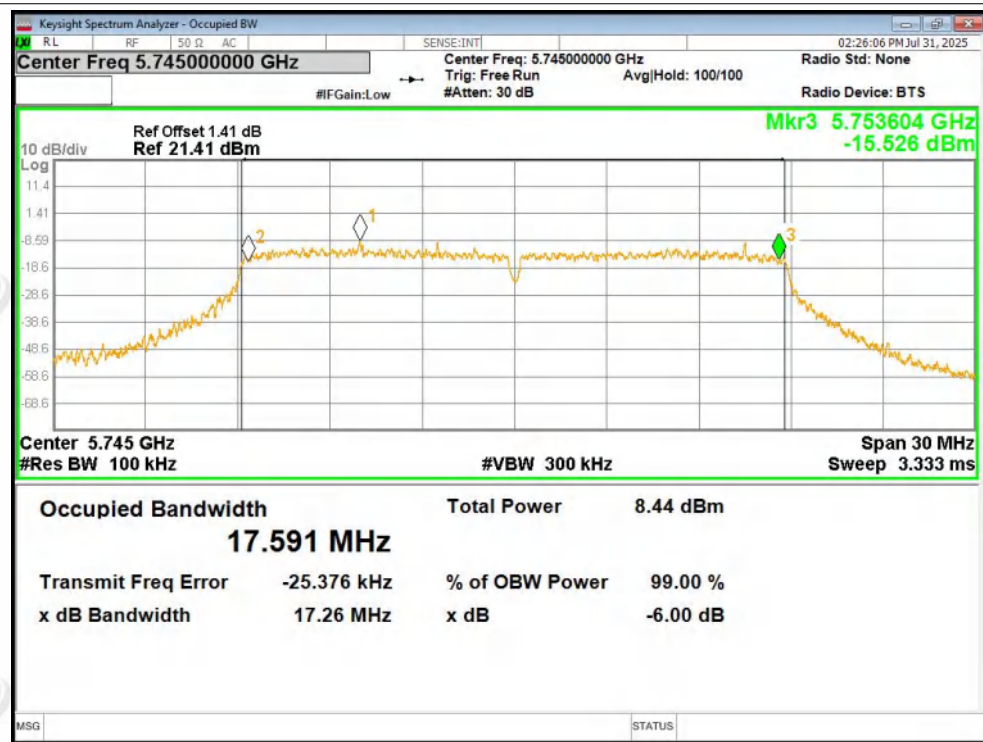




-6dB Bandwidth NVNT a 5825MHz Ant1

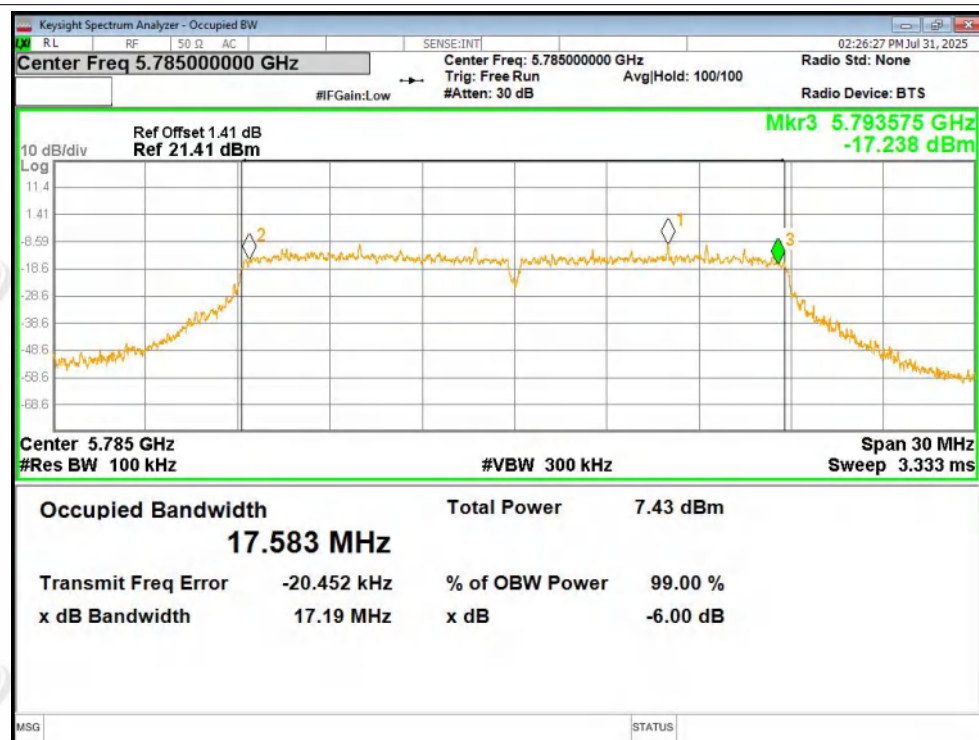


-6dB Bandwidth NVNT n20 5745MHz Ant1

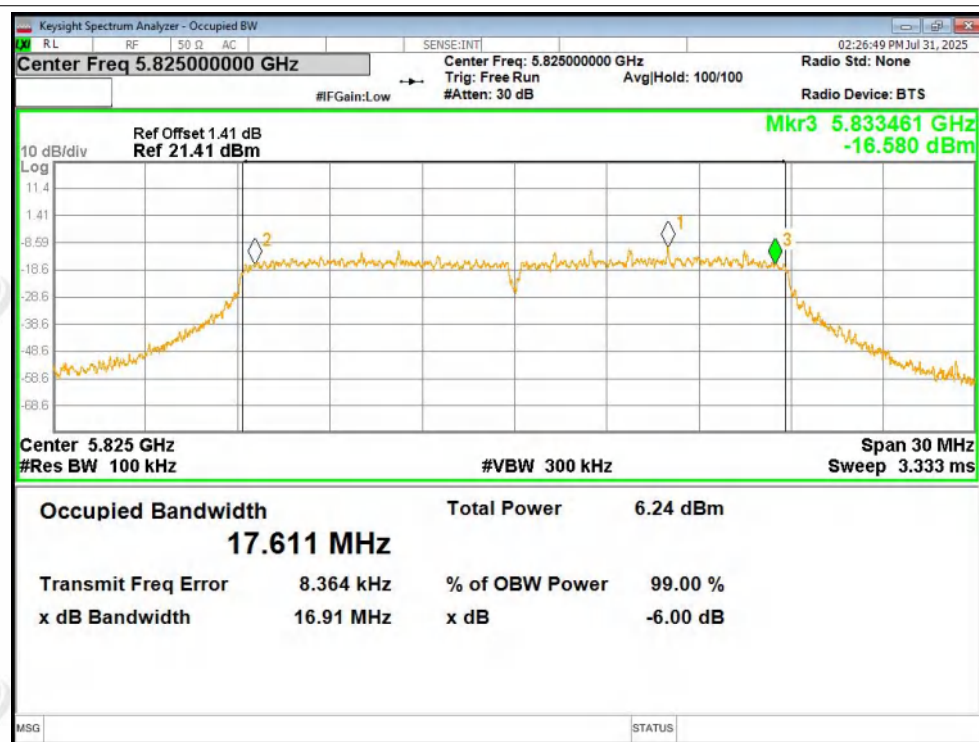




-6dB Bandwidth NVNT n20 5785MHz Ant1

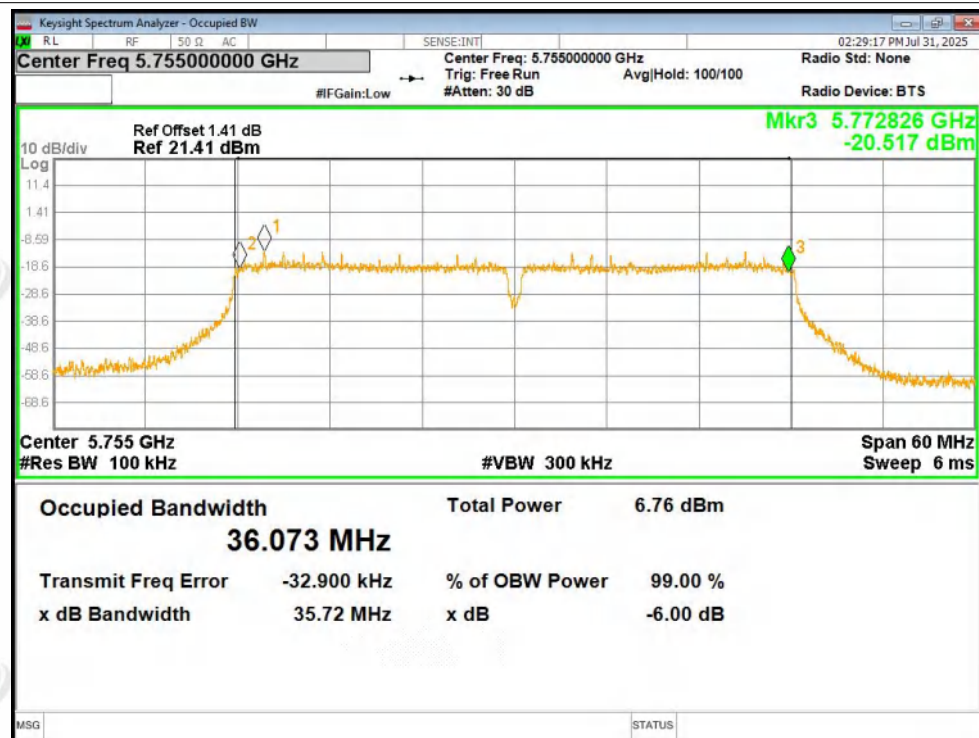


-6dB Bandwidth NVNT n20 5825MHz Ant1

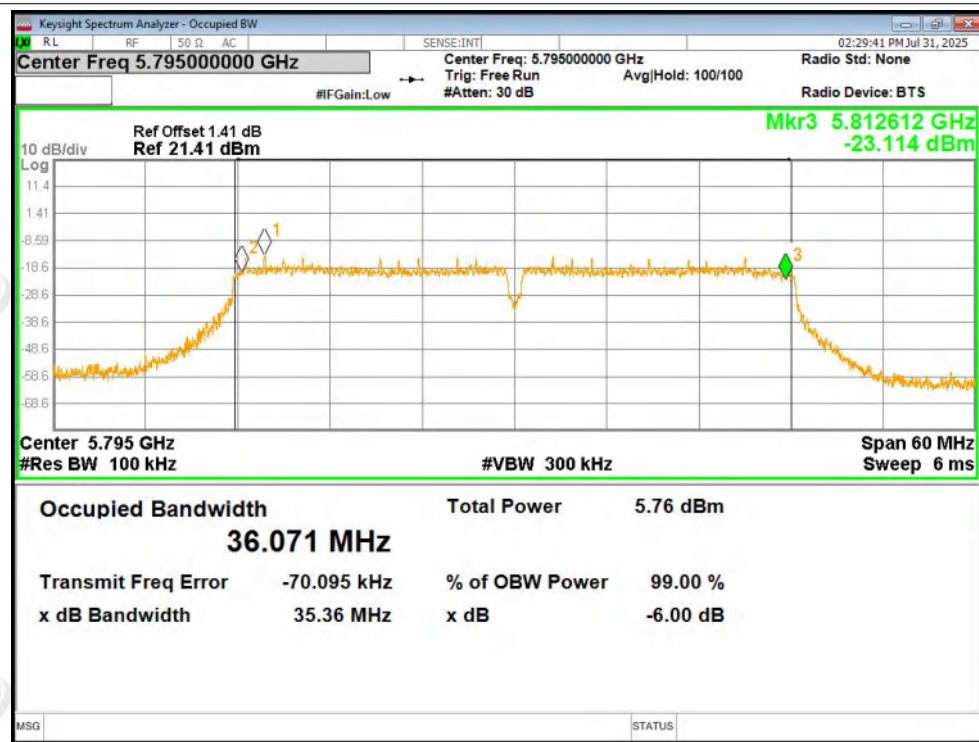




-6dB Bandwidth NVNT n40 5755MHz Ant1

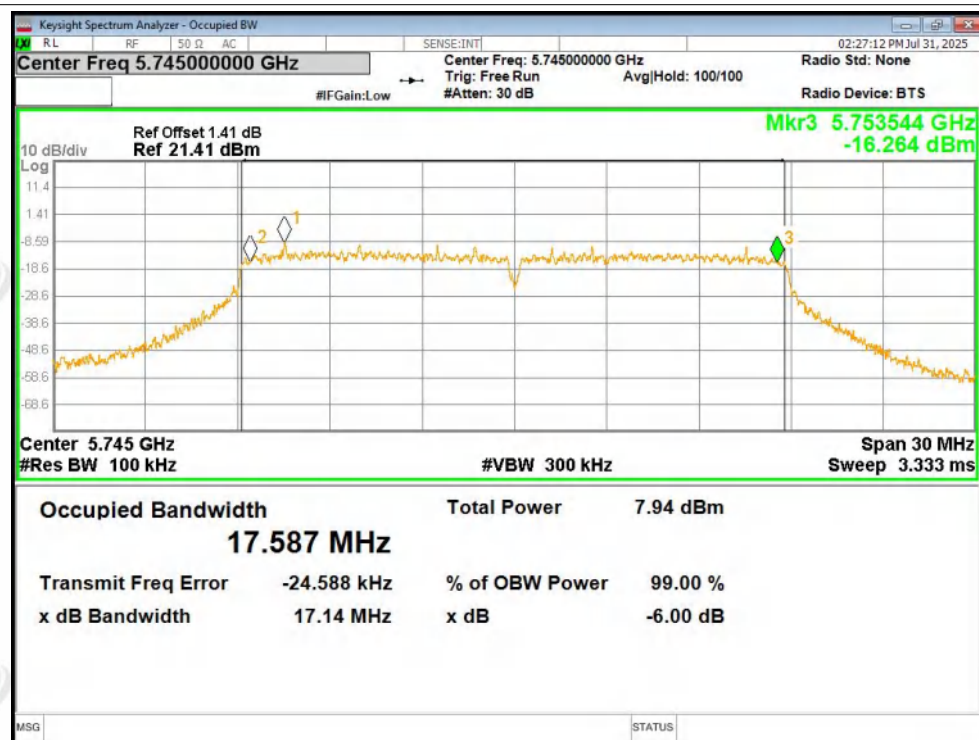


-6dB Bandwidth NVNT n40 5795MHz Ant1

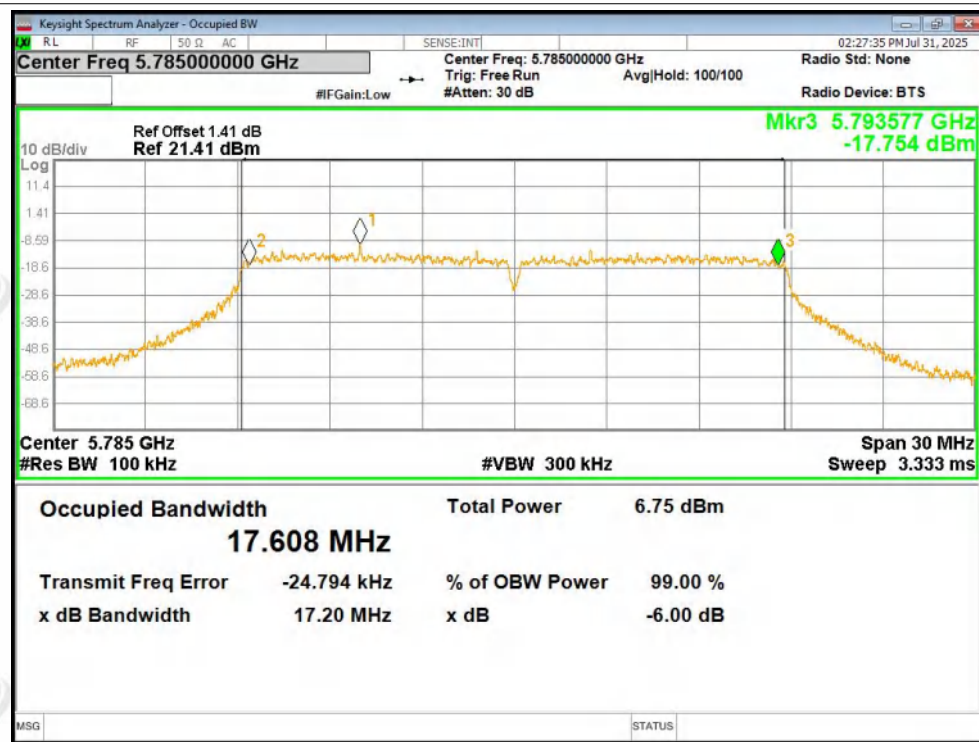




-6dB Bandwidth NVNT ac20 5745MHz Ant1

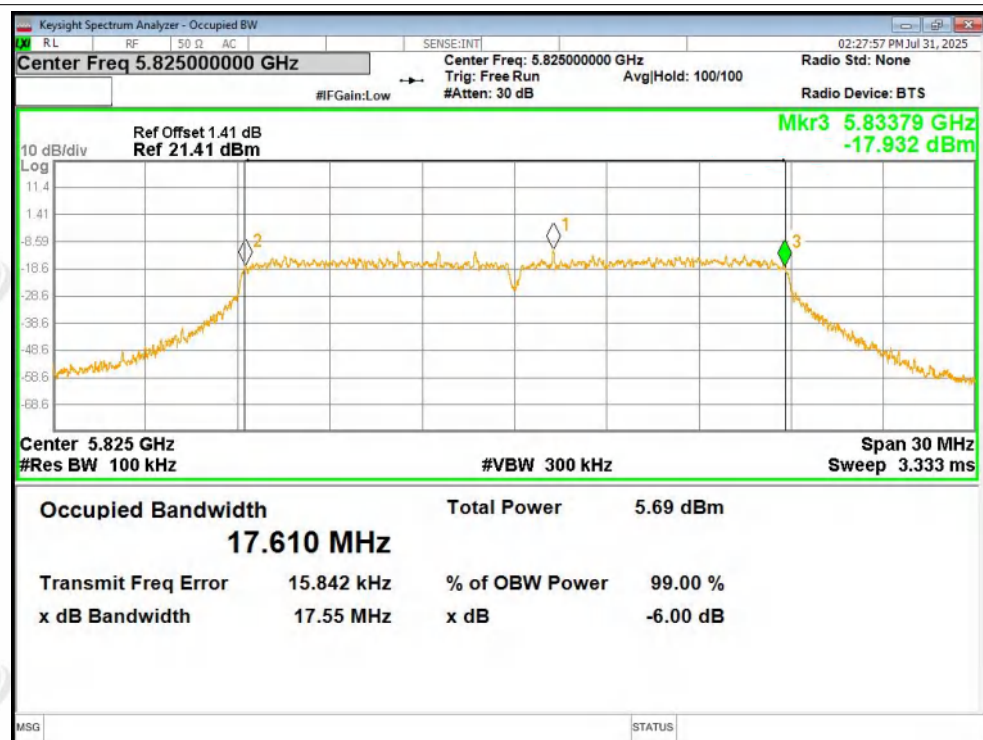


-6dB Bandwidth NVNT ac20 5785MHz Ant1

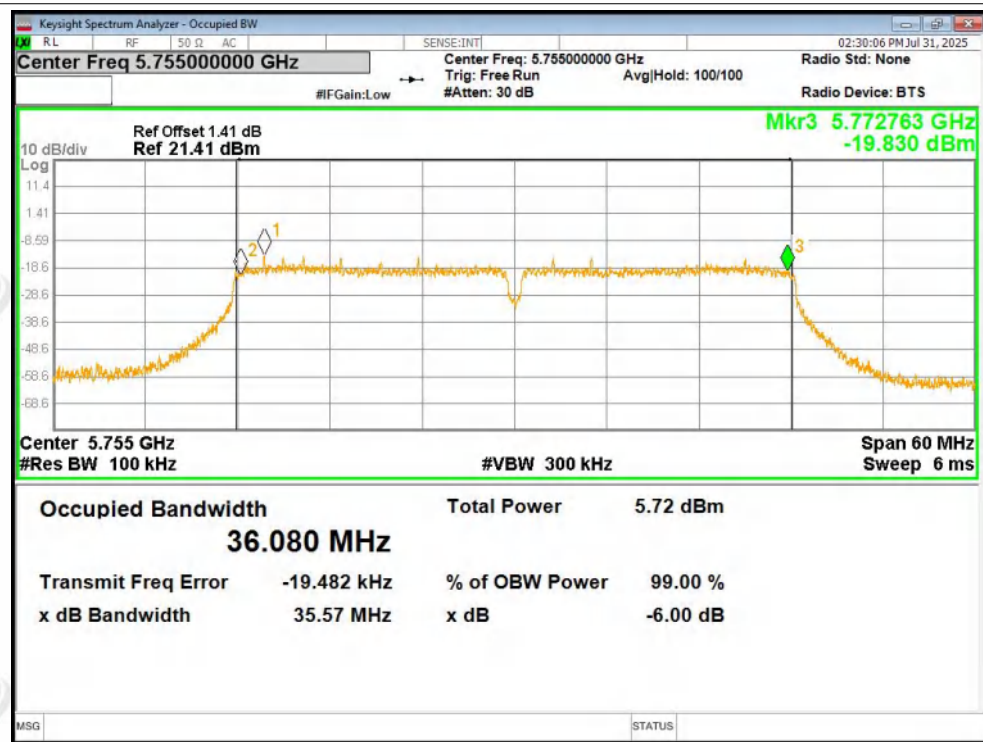




-6dB Bandwidth NVNT ac20 5825MHz Ant1

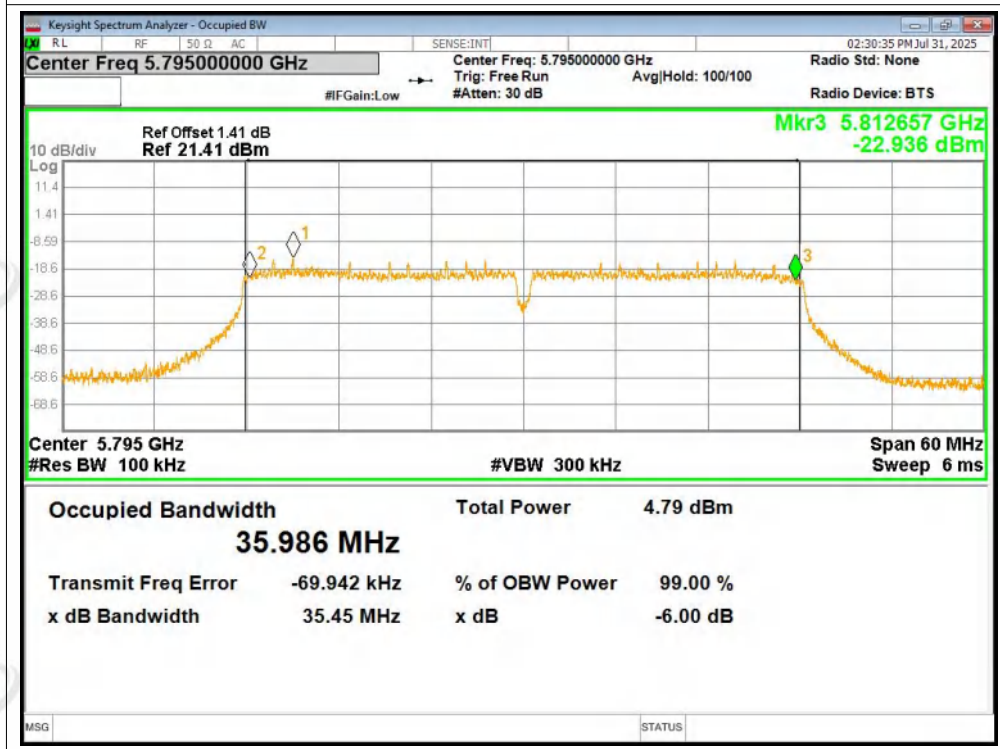


-6dB Bandwidth NVNT ac40 5755MHz Ant1





-6dB Bandwidth NVNT ac40 5795MHz Ant1



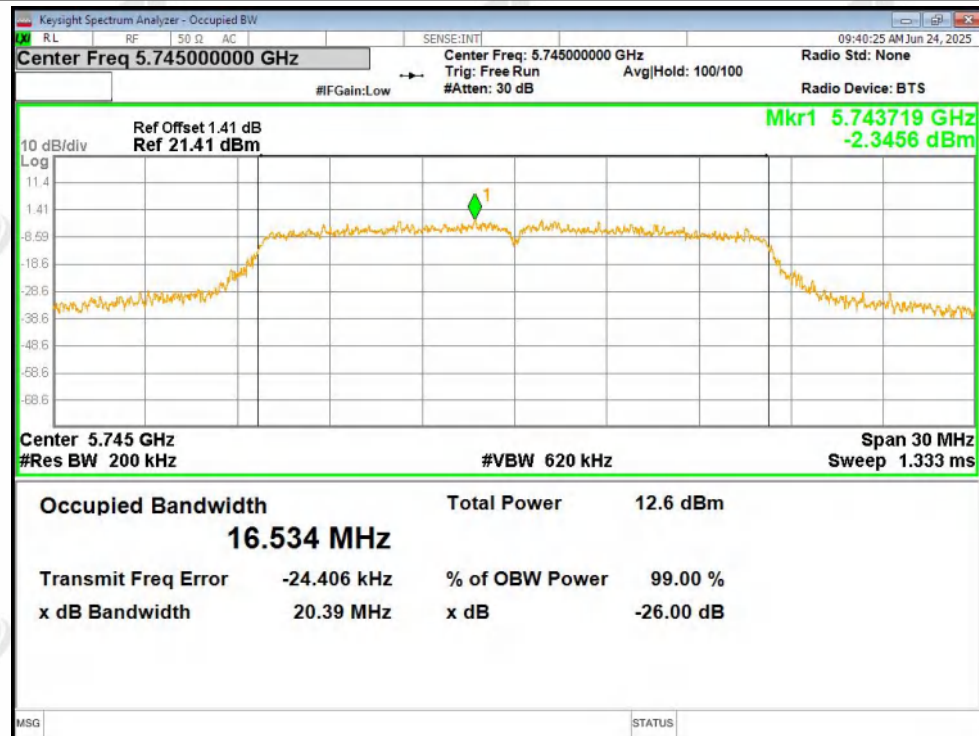
**ZHONGHAN****Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.534
NVNT	a	5785	Ant1	16.551
NVNT	a	5825	Ant1	16.547
NVNT	n20	5745	Ant1	17.607
NVNT	n20	5785	Ant1	17.682
NVNT	n20	5825	Ant1	17.628
NVNT	n40	5755	Ant1	36.105
NVNT	n40	5795	Ant1	36.099
NVNT	ac20	5745	Ant1	17.579
NVNT	ac20	5785	Ant1	17.648
NVNT	ac20	5825	Ant1	17.625
NVNT	ac40	5755	Ant1	36.104
NVNT	ac40	5795	Ant1	36.073

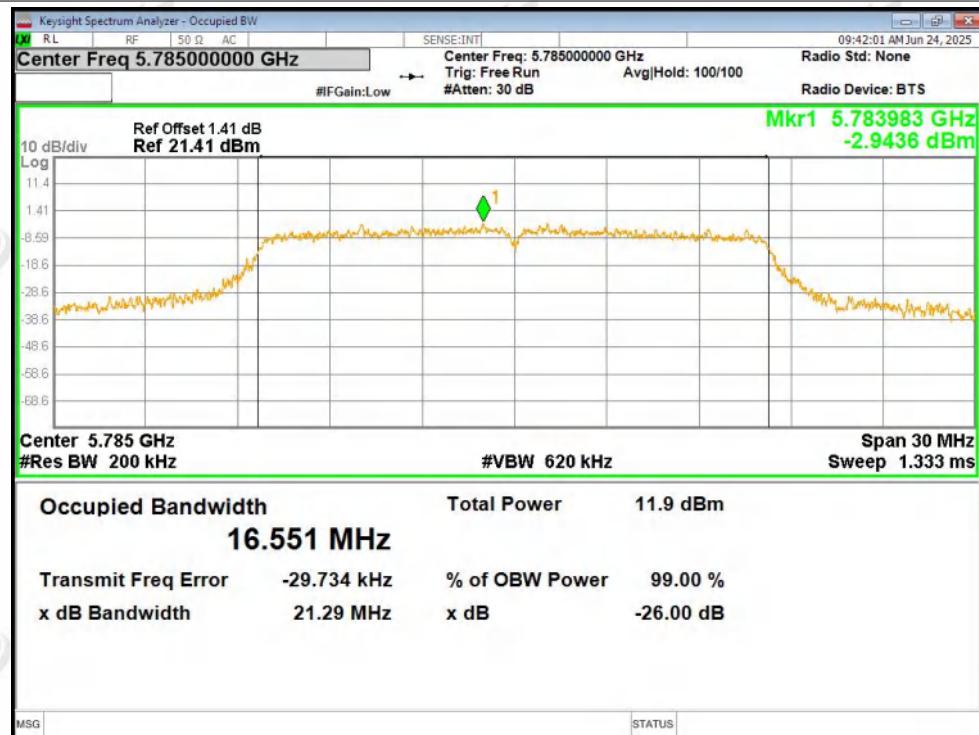


Test Graphs

OBW NVNT a 5745MHz Ant1

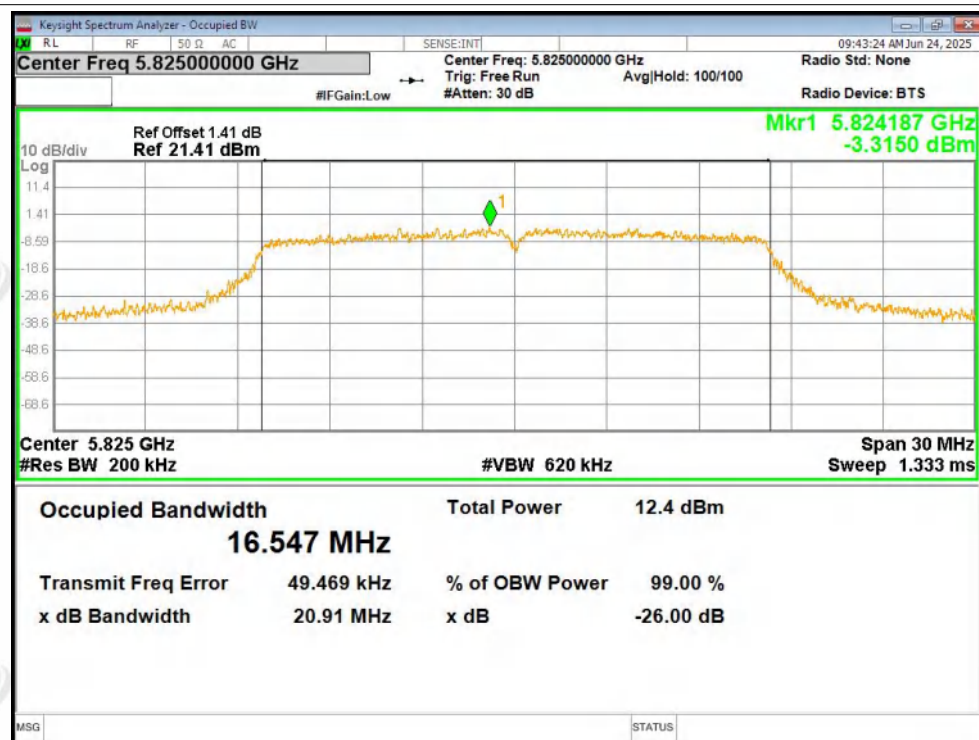


OBW NVNT a 5785MHz Ant1

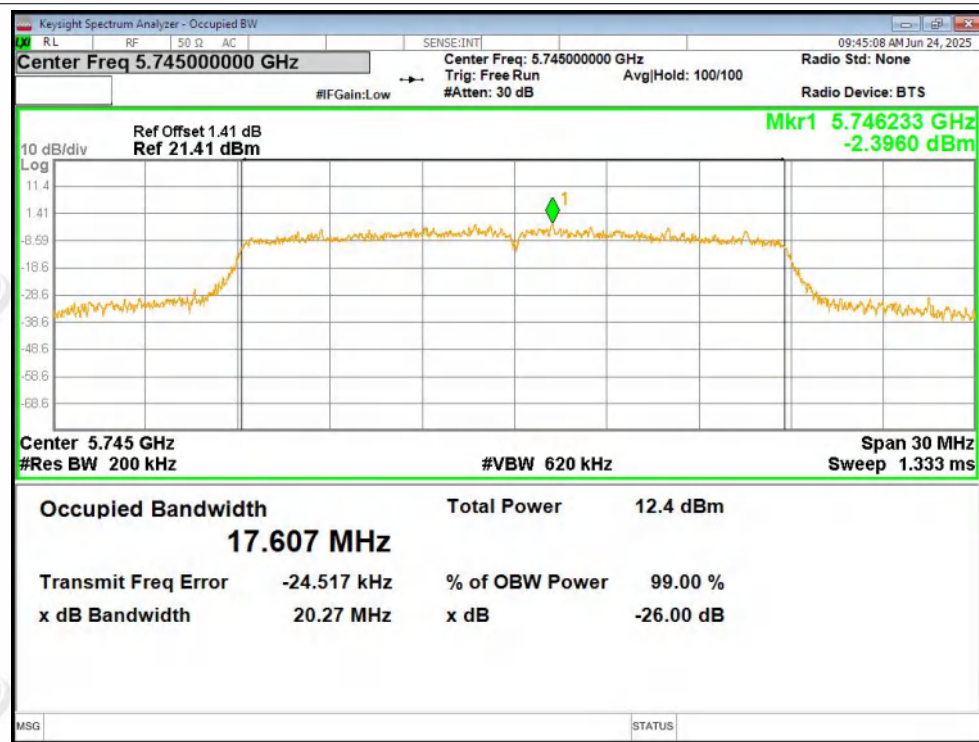




OBW NVNT a 5825MHz Ant1

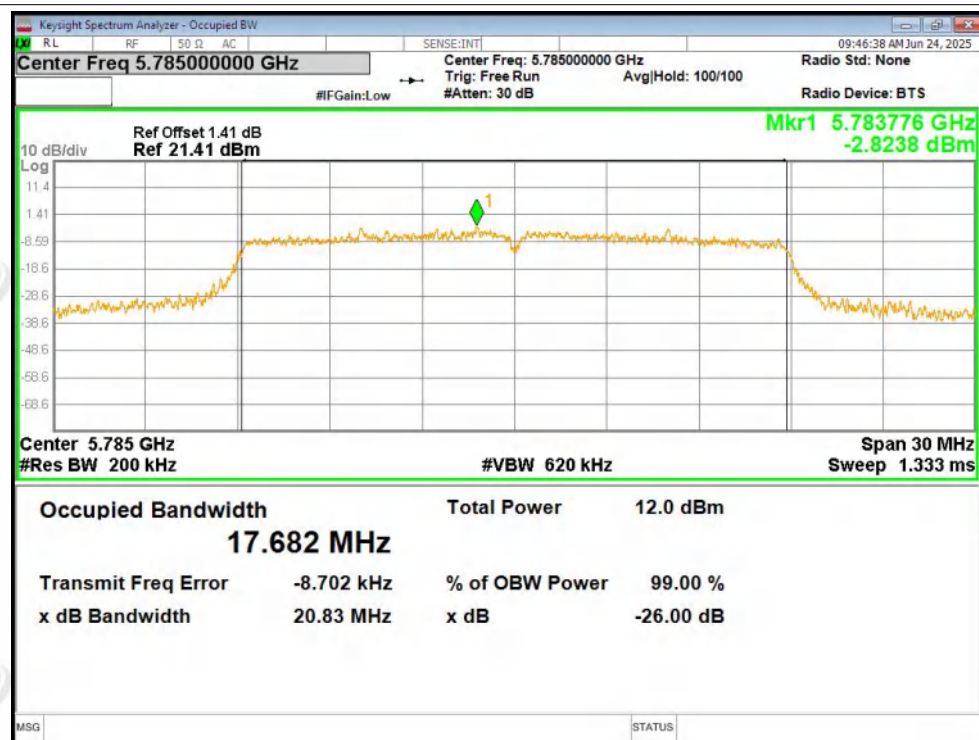


OBW NVNT n20 5745MHz Ant1

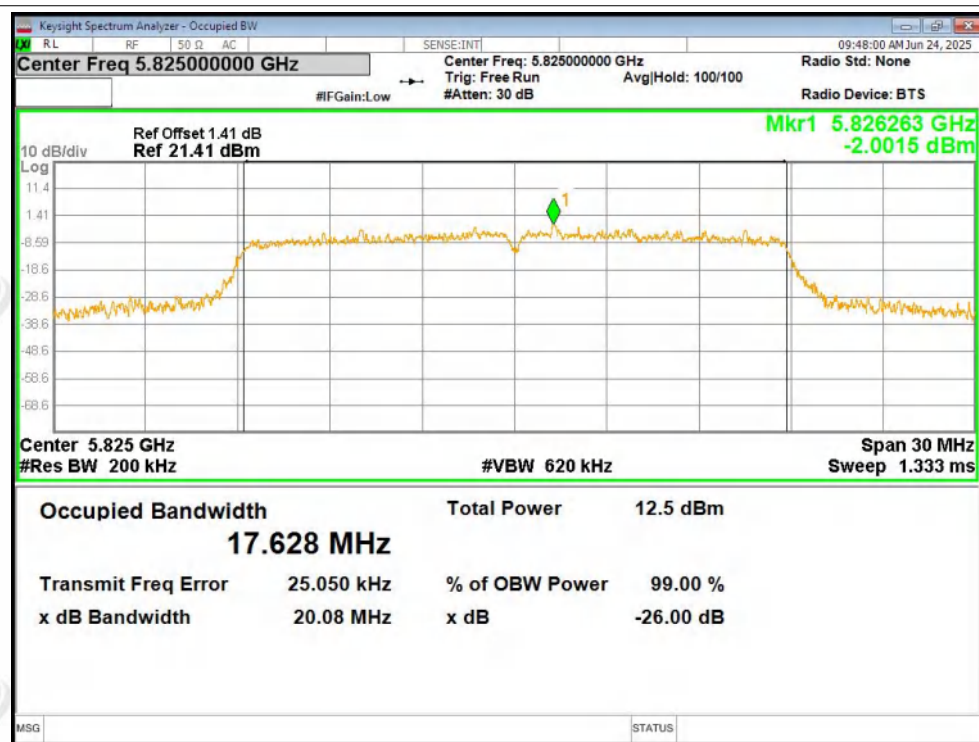




OBW NVNT n20 5785MHz Ant1

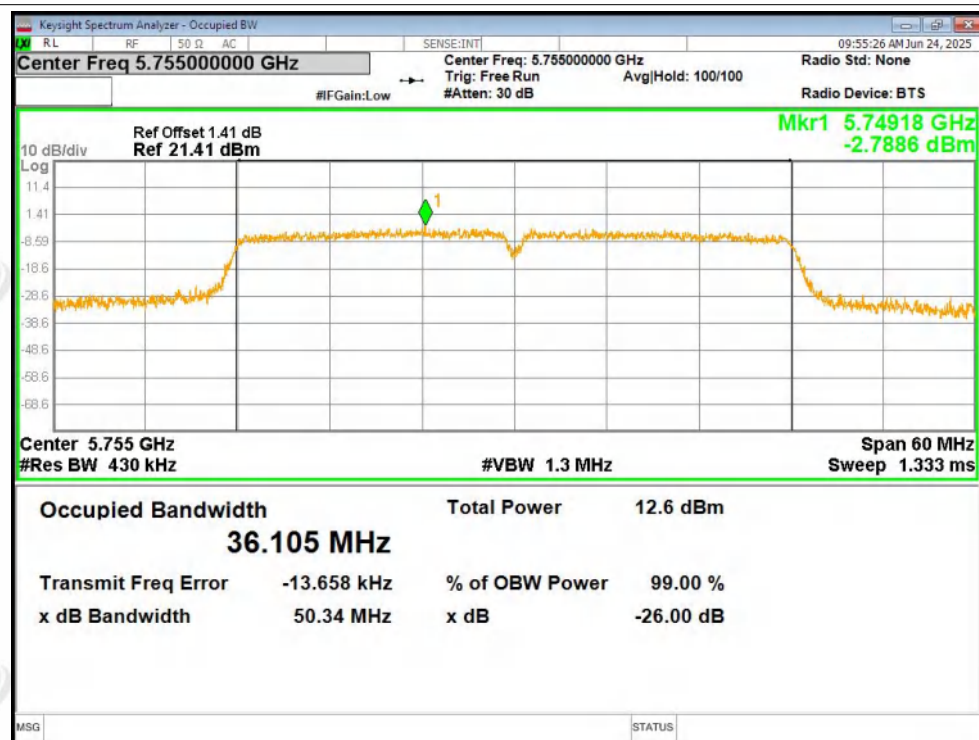


OBW NVNT n20 5825MHz Ant1

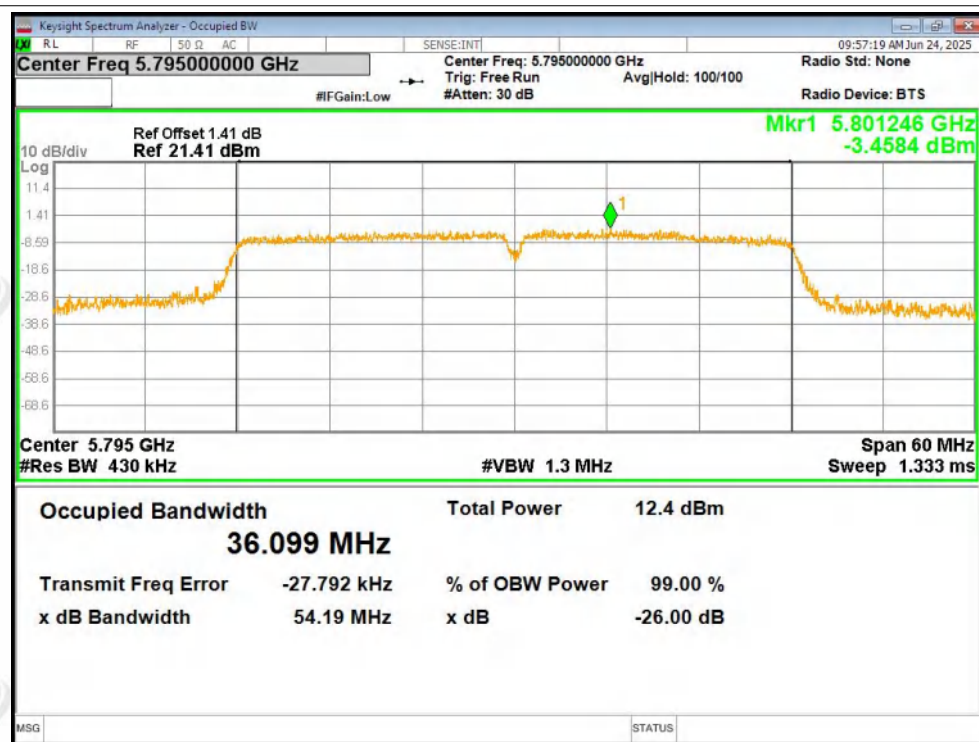




OBW NVNT n40 5755MHz Ant1

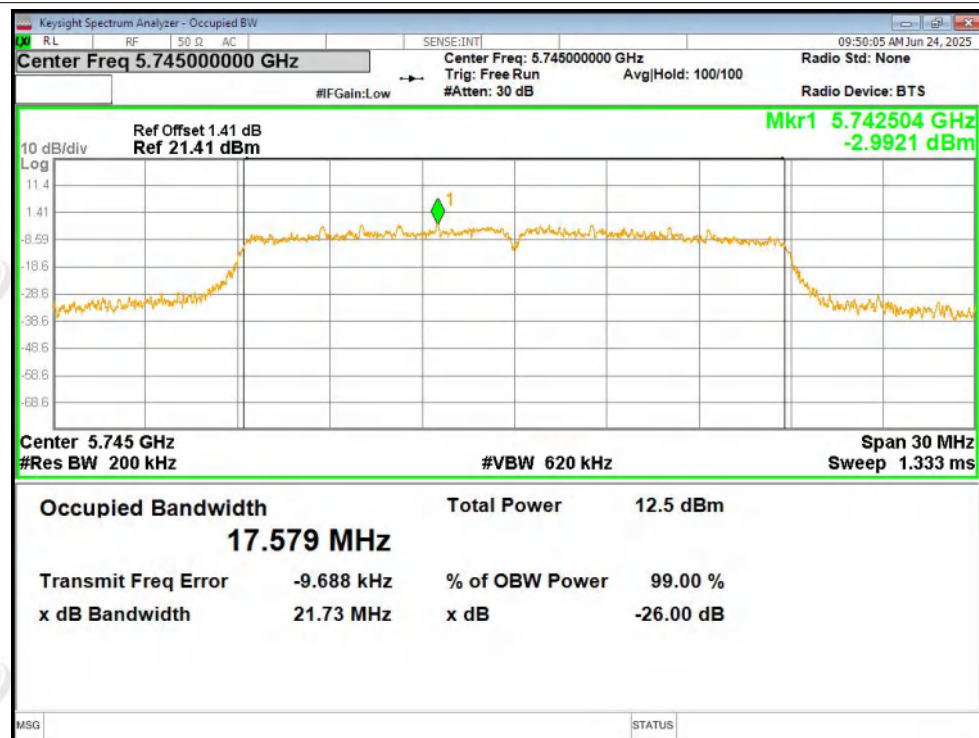


OBW NVNT n40 5795MHz Ant1

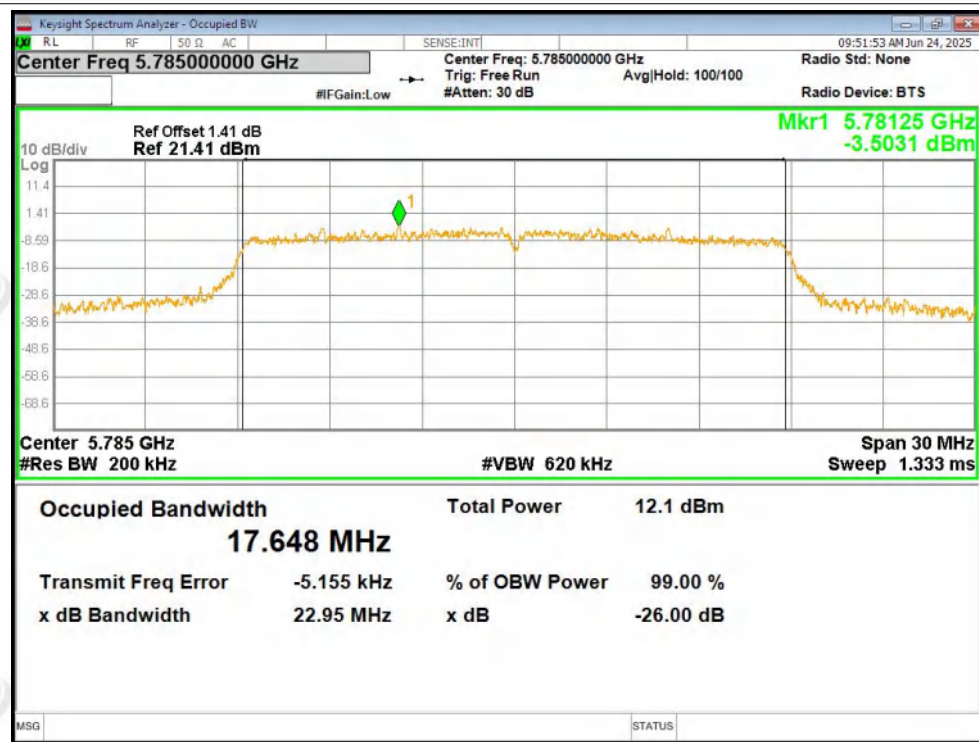




OBW NVNT ac20 5745MHz Ant1

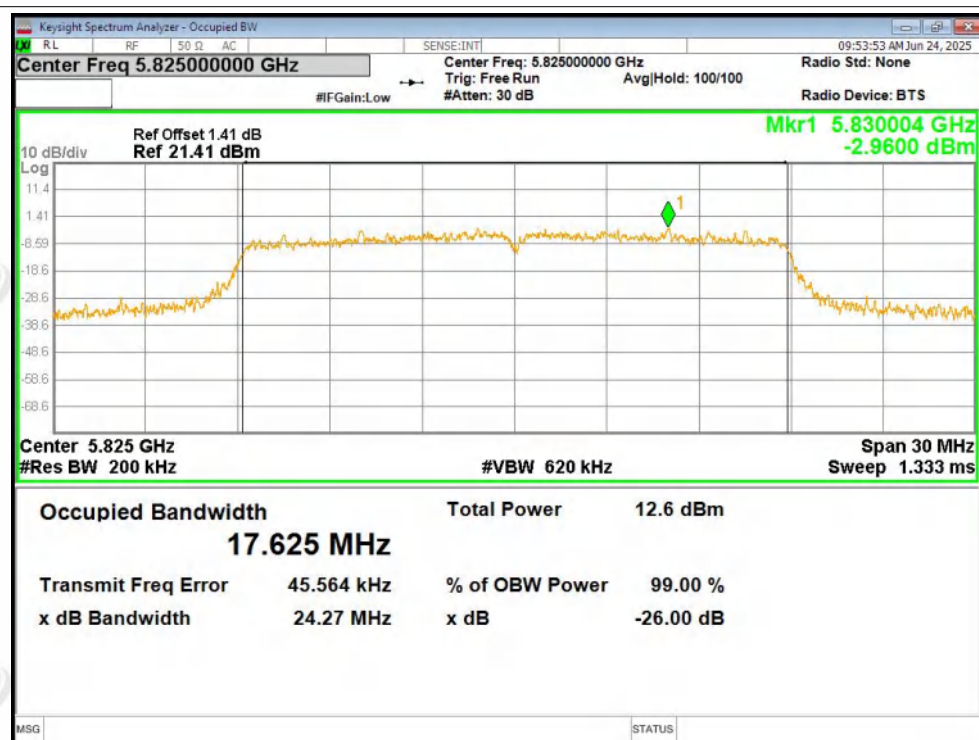


OBW NVNT ac20 5785MHz Ant1

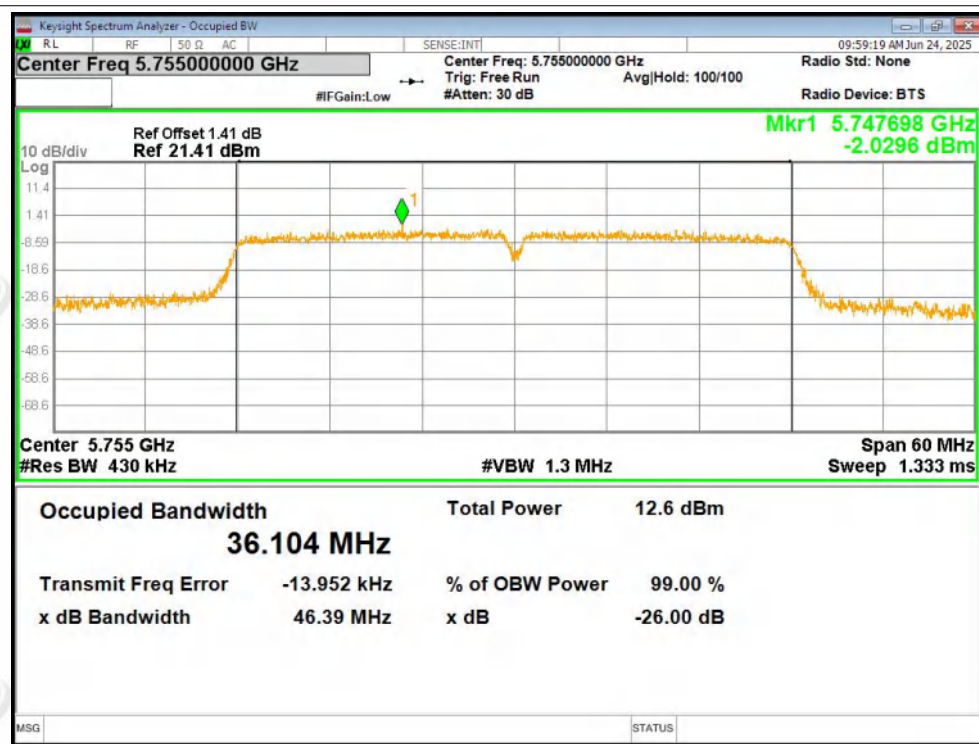




OBW NVNT ac20 5825MHz Ant1

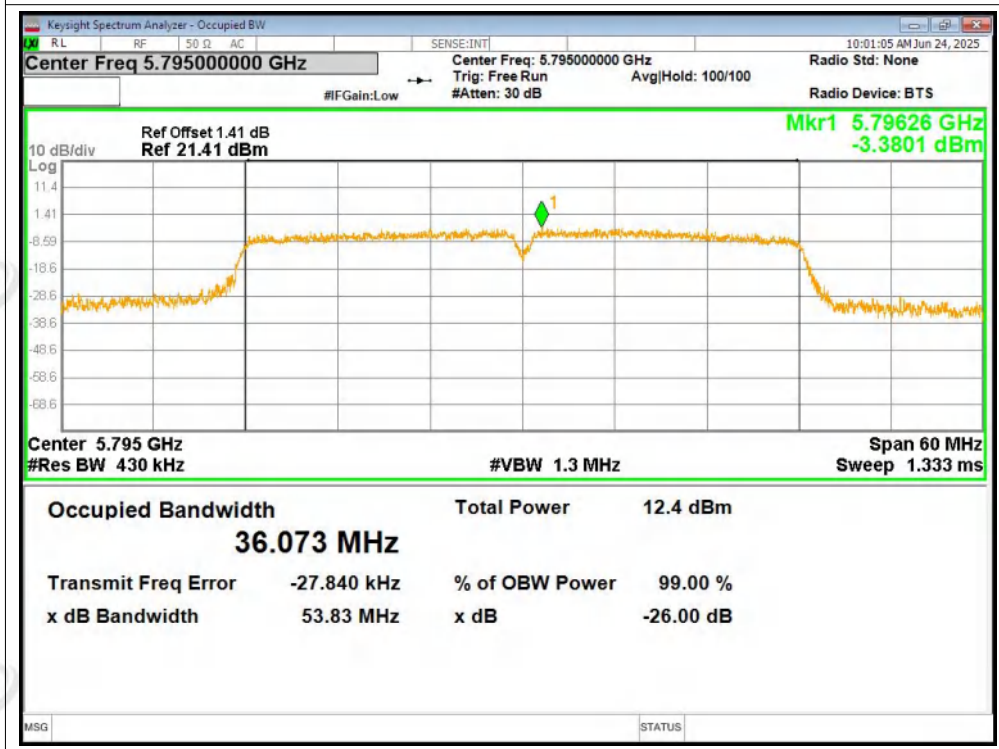


OBW NVNT ac40 5755MHz Ant1





OBW NVNT ac40 5795MHz Ant1



**ZHONGHAN****Maximum Power Spectral Density Level**

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	RB factor(dB)	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Verdict
a	5745	Ant1	-10.11	0.5	-0.086	-9.70	30	Pass
a	5785	Ant1	-11.45	0.53	-0.086	-11.01	30	Pass
a	5825	Ant1	-12.65	0.5	-0.086	-12.24	30	Pass
n20	5745	Ant1	-10.66	0.54	-0.086	-10.21	30	Pass
n20	5785	Ant1	-11.86	0.54	-0.086	-11.41	30	Pass
n20	5825	Ant1	-13.12	0.54	-0.086	-12.67	30	Pass
n40	5755	Ant1	-15.87	1.04	-0.086	-14.92	30	Pass
n40	5795	Ant1	-17.04	1.04	-0.086	-16.09	30	Pass
ac20	5745	Ant1	-11.41	0.54	-0.086	-10.96	30	Pass
ac20	5785	Ant1	-12.12	0.57	-0.086	-11.64	30	Pass
ac20	5825	Ant1	-13.63	0.54	-0.086	-13.18	30	Pass
ac40	5755	Ant1	-16.79	1.02	-0.086	-15.86	30	Pass
ac40	5795	Ant1	-17.89	1.04	-0.086	-16.94	30	Pass

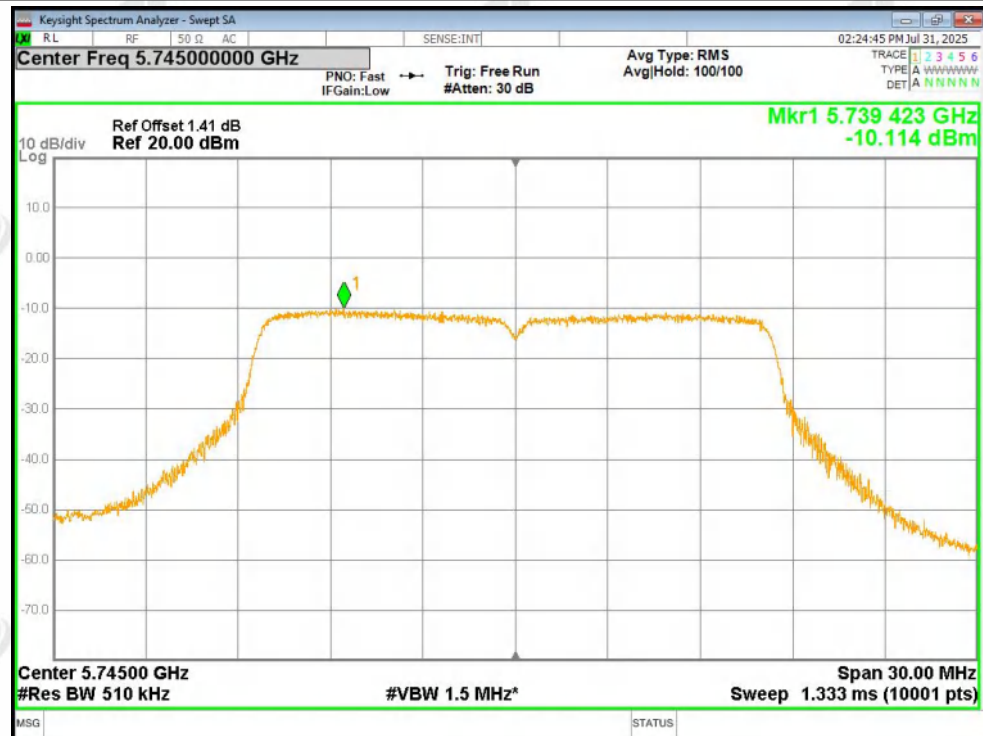
RB factor = $10 \lg (\text{Measure RB} / 500)$, Measure RB = 510 kHz

Total PSD = Conducted PSD + Duty factor(dB) + RB factor(dB)

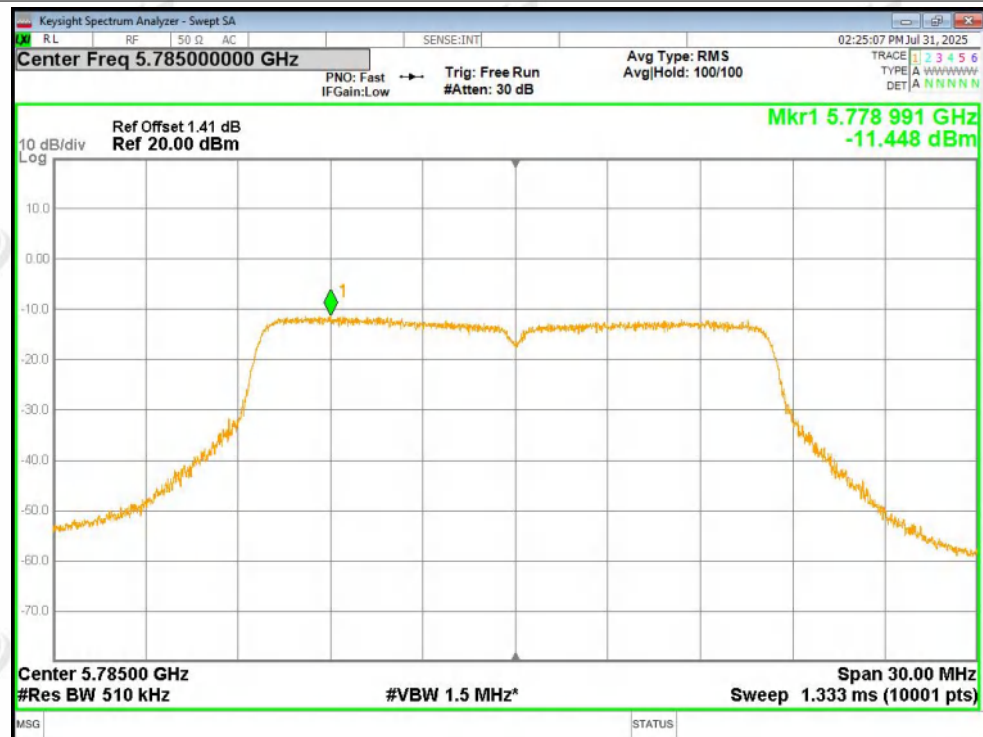


Test Graphs

PSD NVNT a 5745MHz Ant1

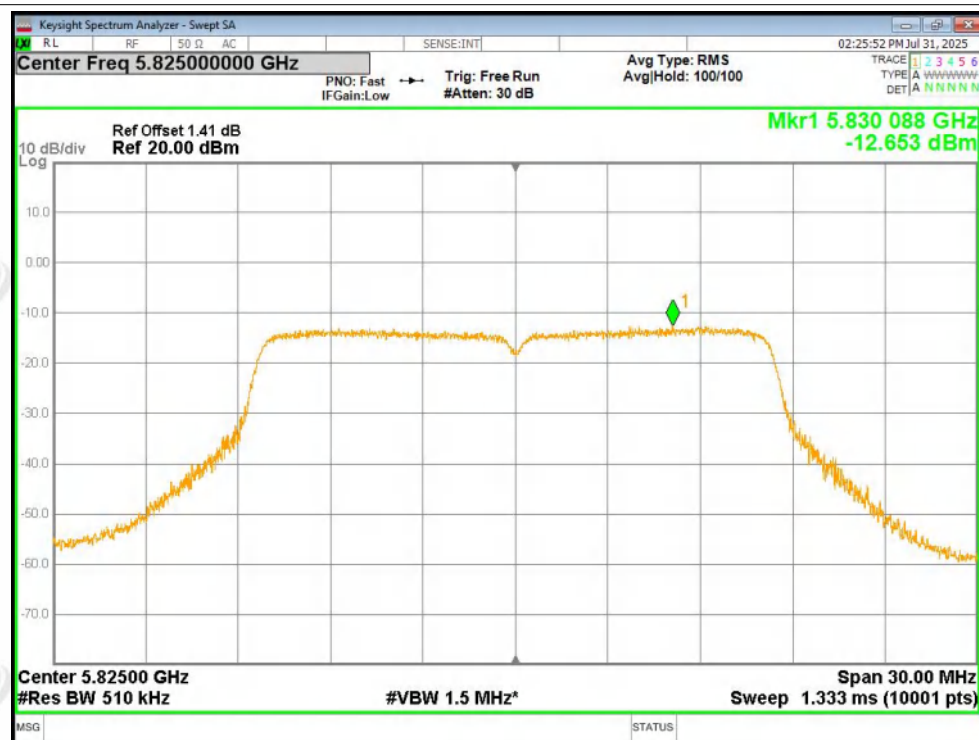


PSD NVNT a 5785MHz Ant1

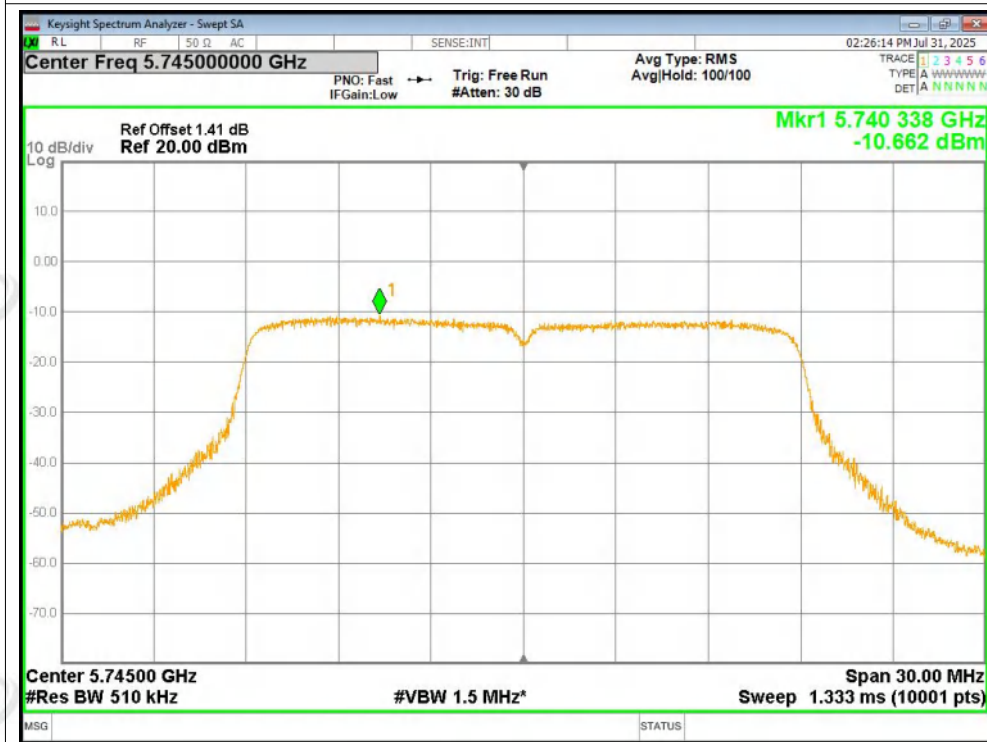




PSD NVNT a 5825MHz Ant1



PSD NVNT n20 5745MHz Ant1

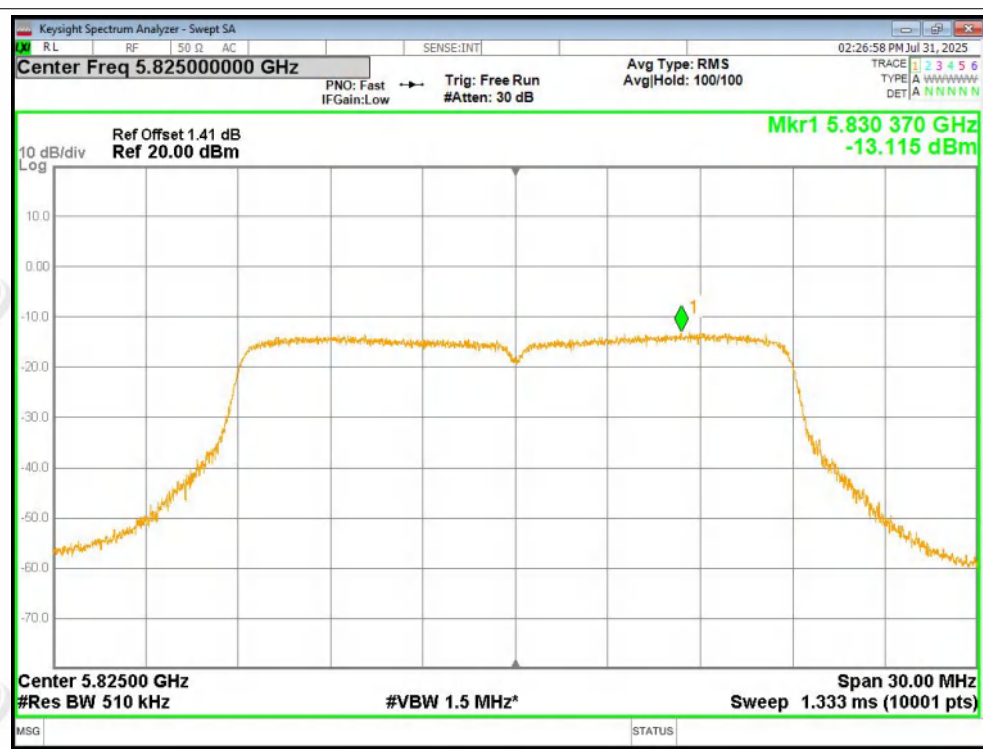




PSD NVNT n20 5785MHz Ant1

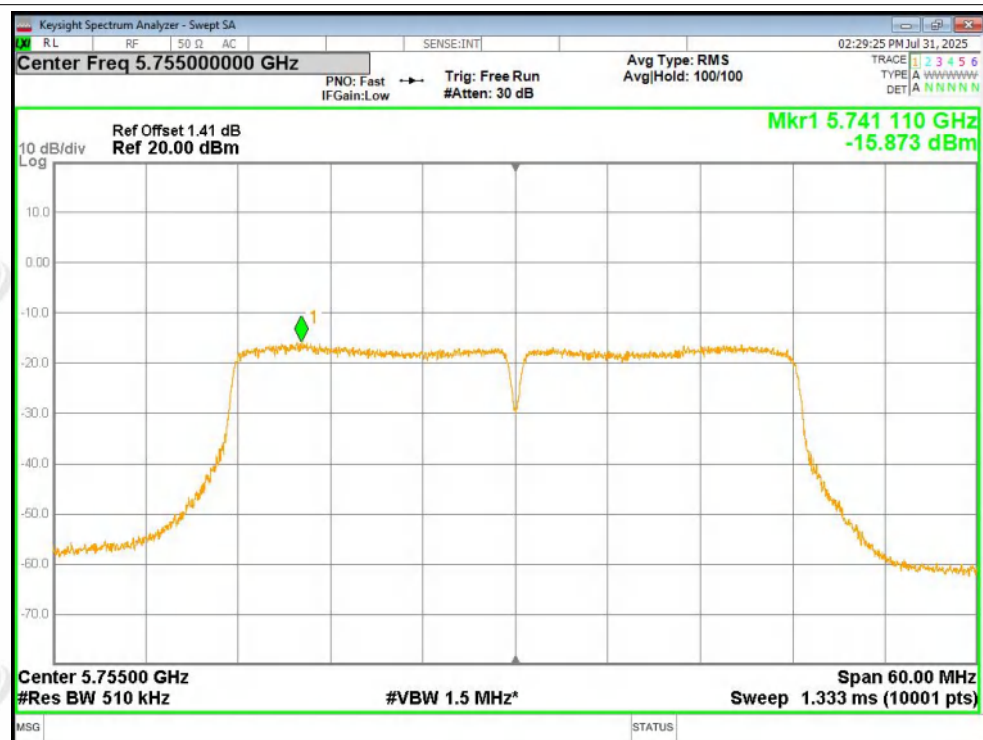


PSD NVNT n20 5825MHz Ant1

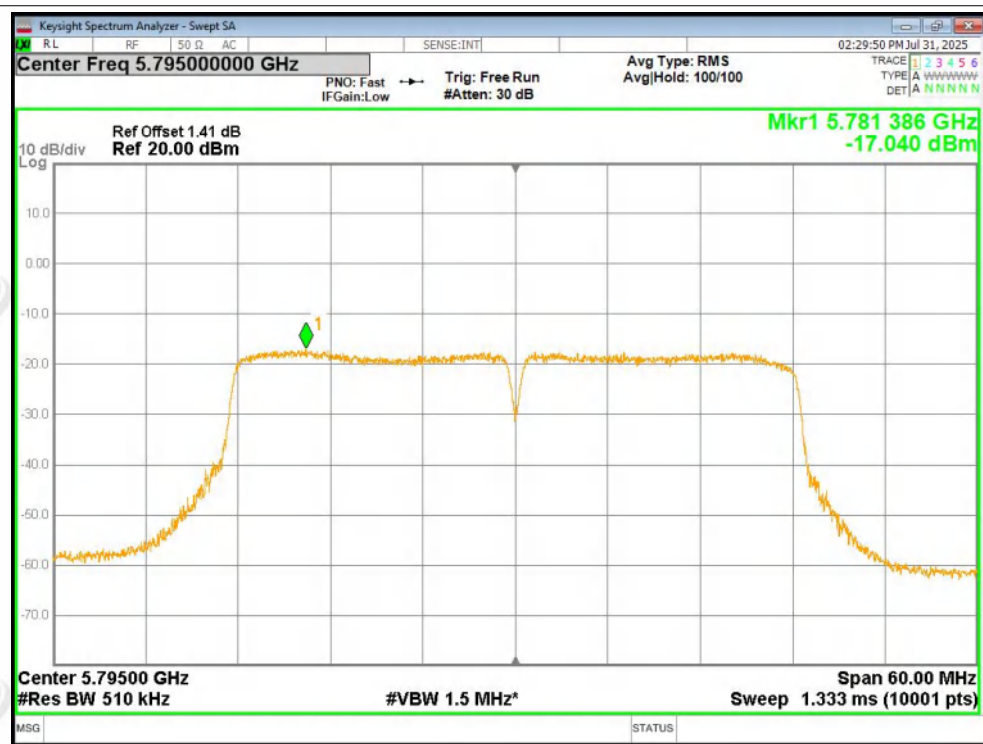




PSD NVNT n40 5755MHz Ant1

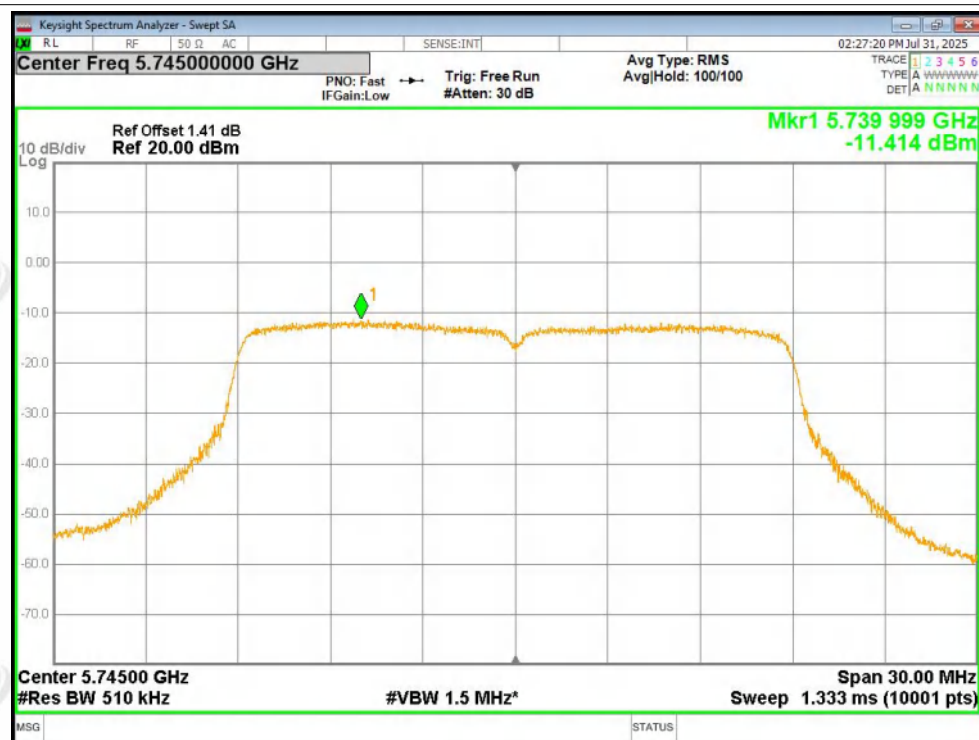


PSD NVNT n40 5795MHz Ant1

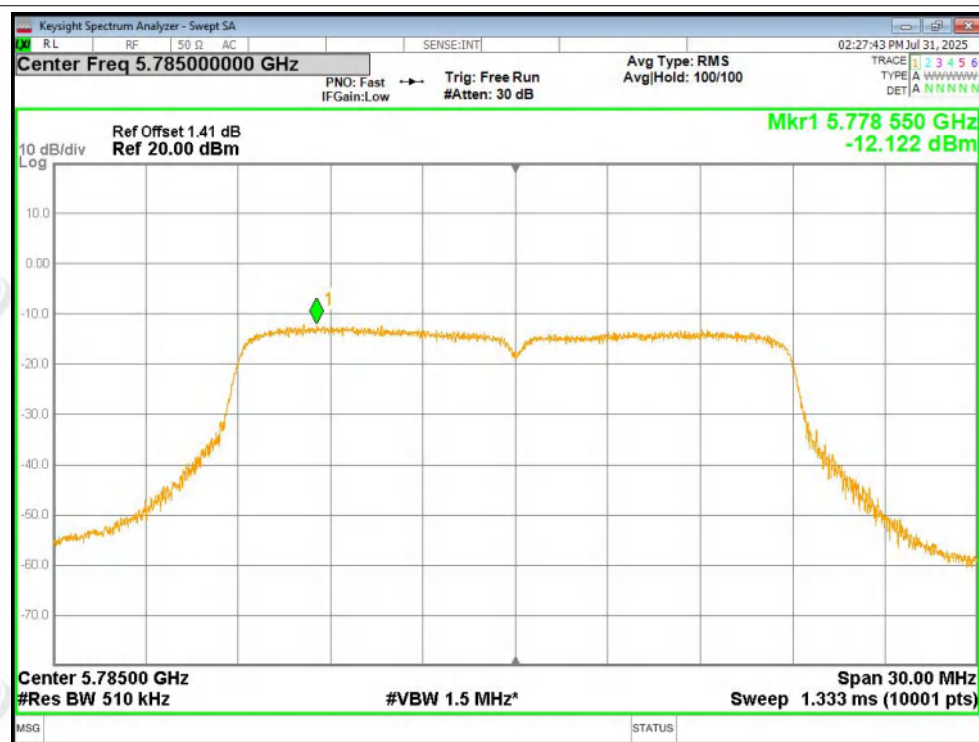




PSD NVNT ac20 5745MHz Ant1

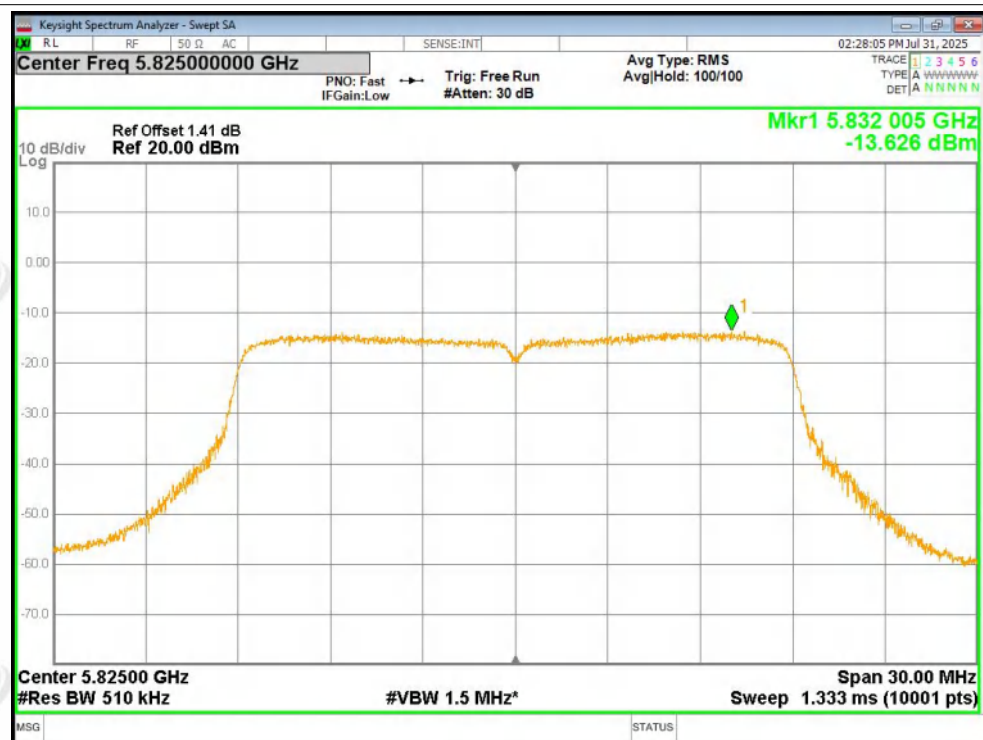


PSD NVNT ac20 5785MHz Ant1

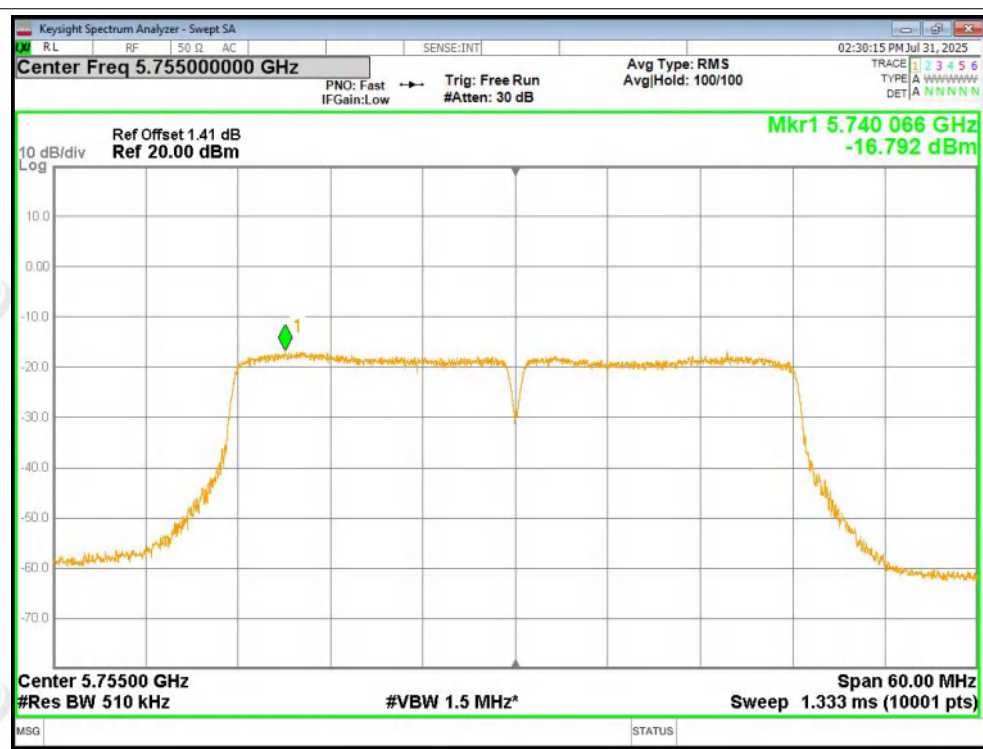




PSD NVNT ac20 5825MHz Ant1

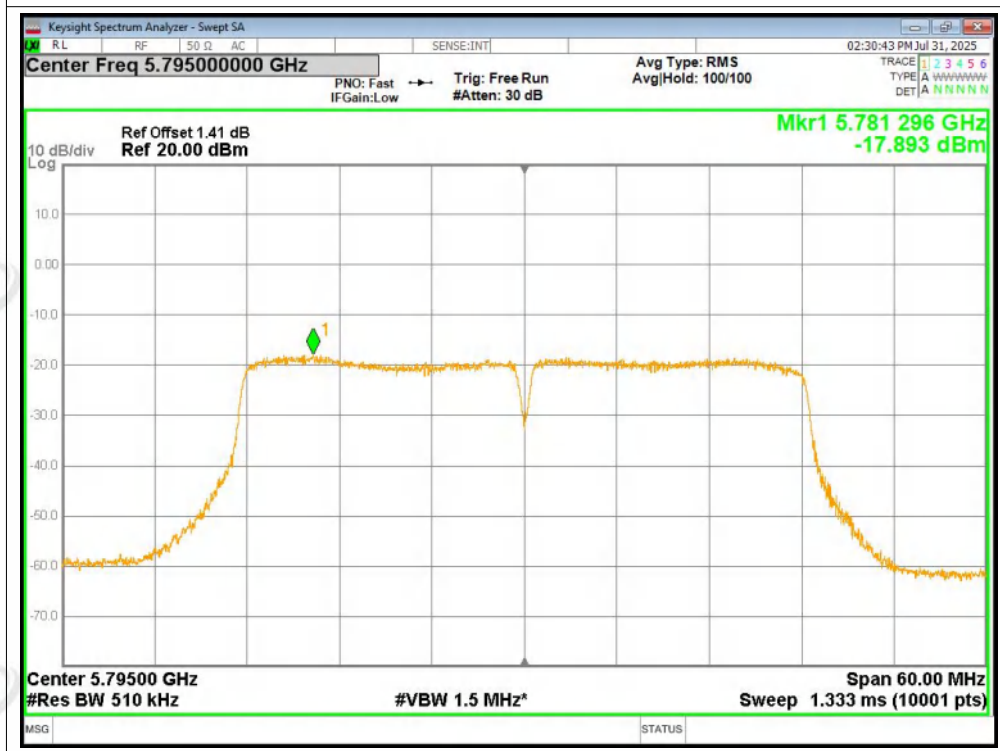


PSD NVNT ac40 5755MHz Ant1





PSD NVNT ac40 5795MHz Ant1





ZHONGHAN

Band Edge

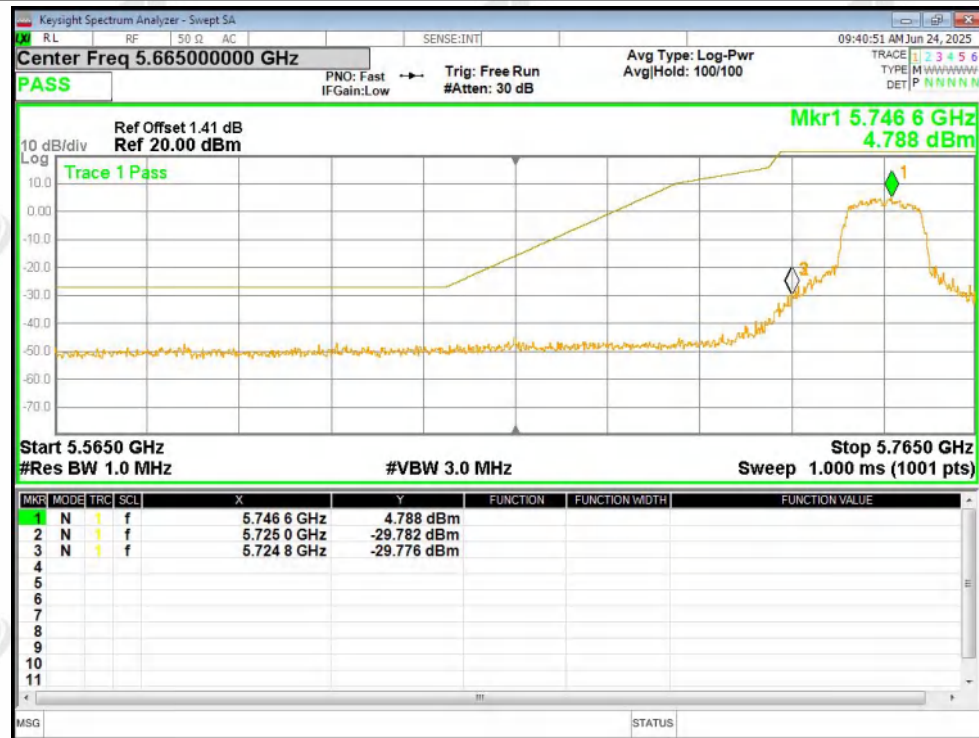
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-29.77	Reference data graph	Pass
NVNT	a	5825	Ant1	-42.76	Reference data graph	Pass
NVNT	n20	5745	Ant1	-28.97	Reference data graph	Pass
NVNT	n20	5825	Ant1	-39.32	Reference data graph	Pass
NVNT	n40	5755	Ant1	-24.4	Reference data graph	Pass
NVNT	n40	5795	Ant1	-41.07	Reference data graph	Pass
NVNT	ac20	5745	Ant1	-28.69	Reference data graph	Pass
NVNT	ac20	5825	Ant1	-40.76	Reference data graph	Pass
NVNT	ac40	5755	Ant1	-22.74	Reference data graph	Pass
NVNT	ac40	5795	Ant1	-42.69	Reference data graph	Pass

Note: input compensation coefficient (dB)= Cable Loss (dB)

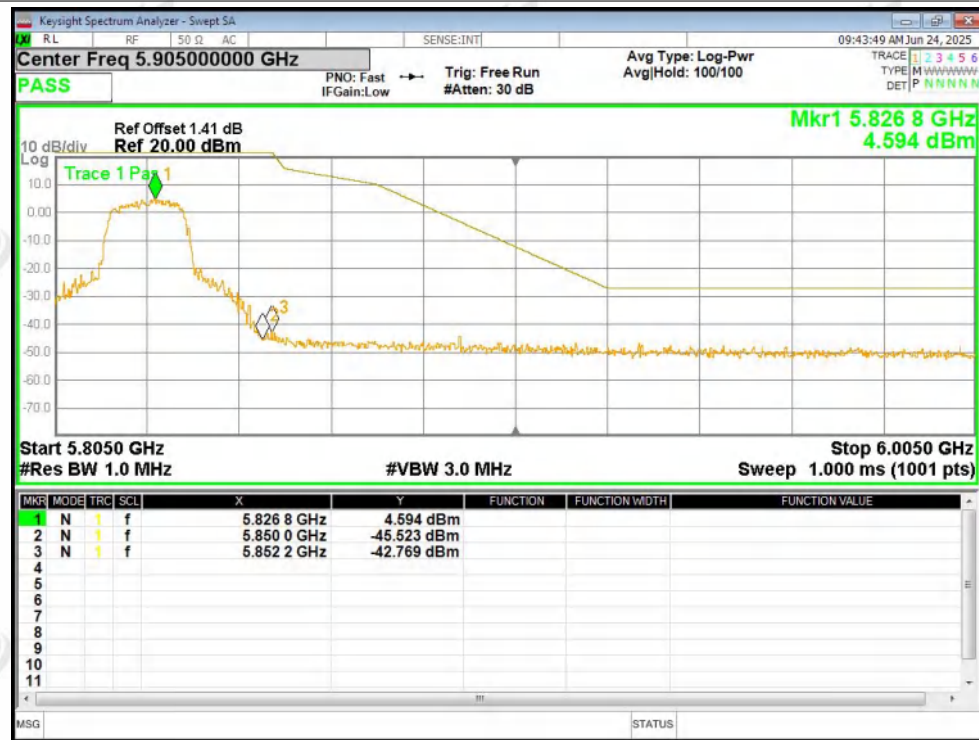


Test Graphs

Band Edge NVNT a 5745MHz Low Ant1

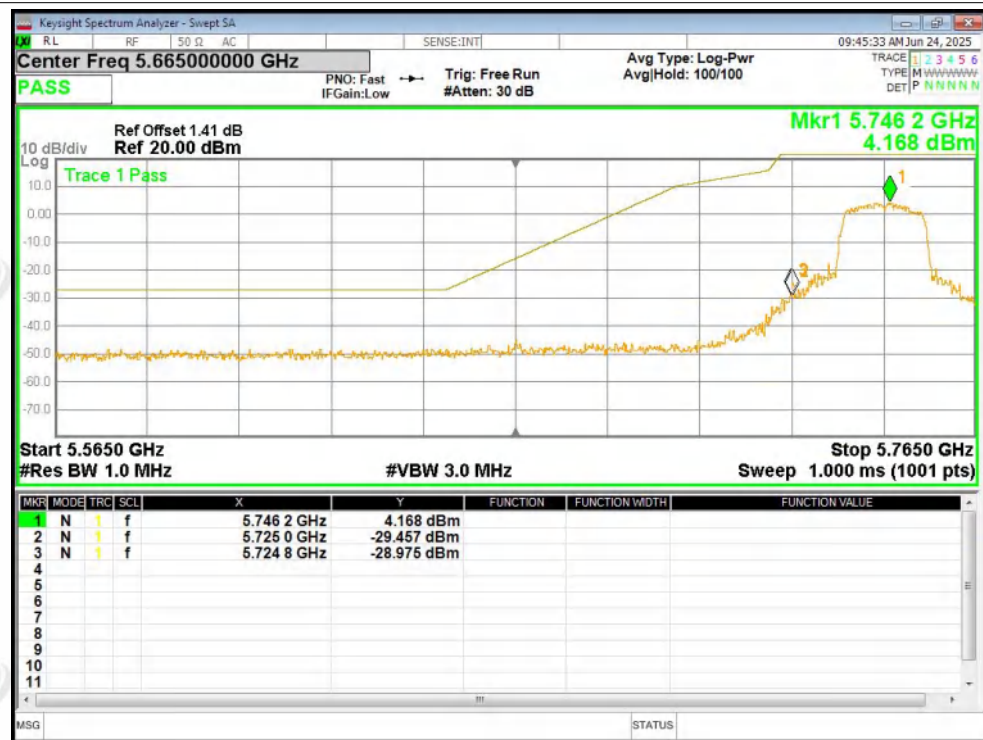


Band Edge NVNT a 5825MHz High Ant1

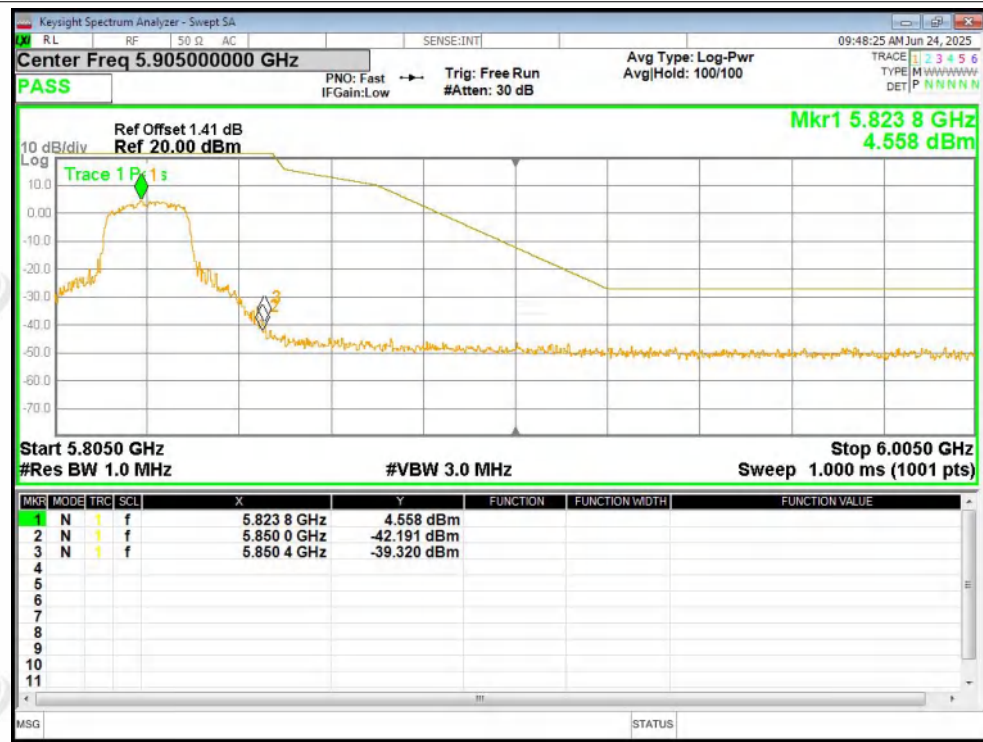




Band Edge NVNT n20 5745MHz Low Ant1

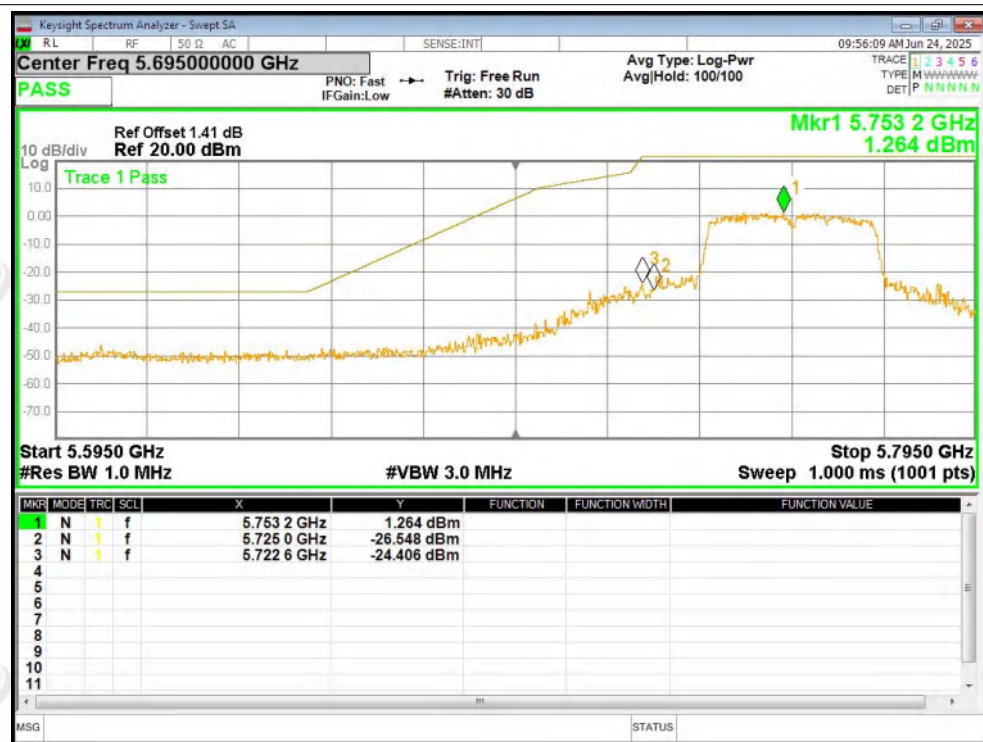


Band Edge NVNT n20 5825MHz High Ant1

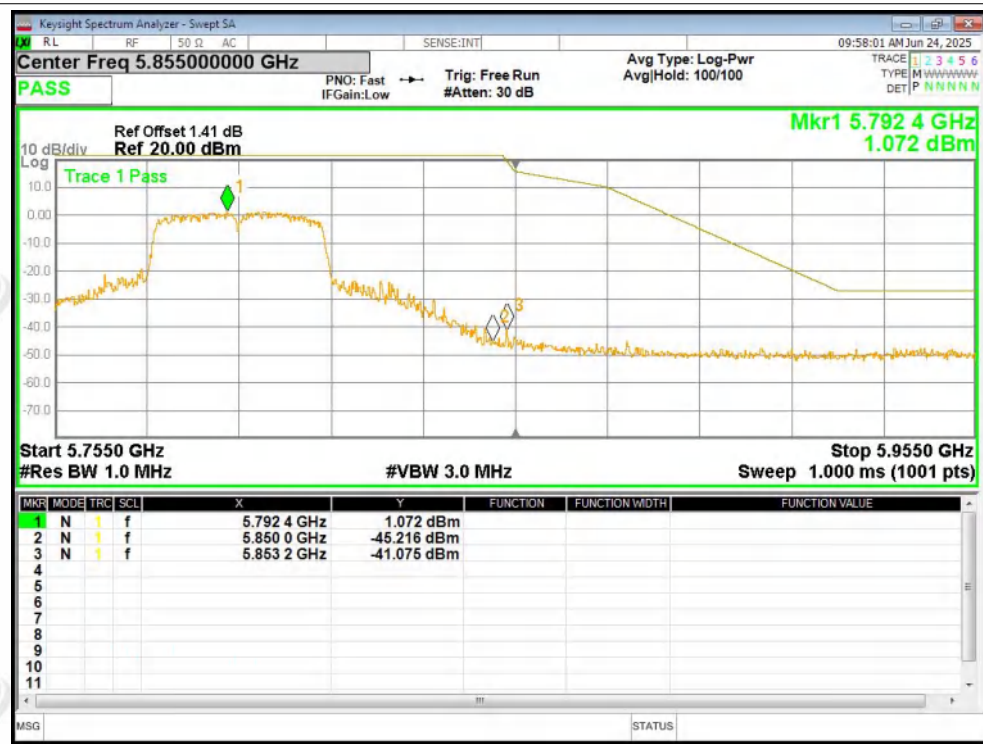




Band Edge NVNT n40 5755MHz Low Ant1

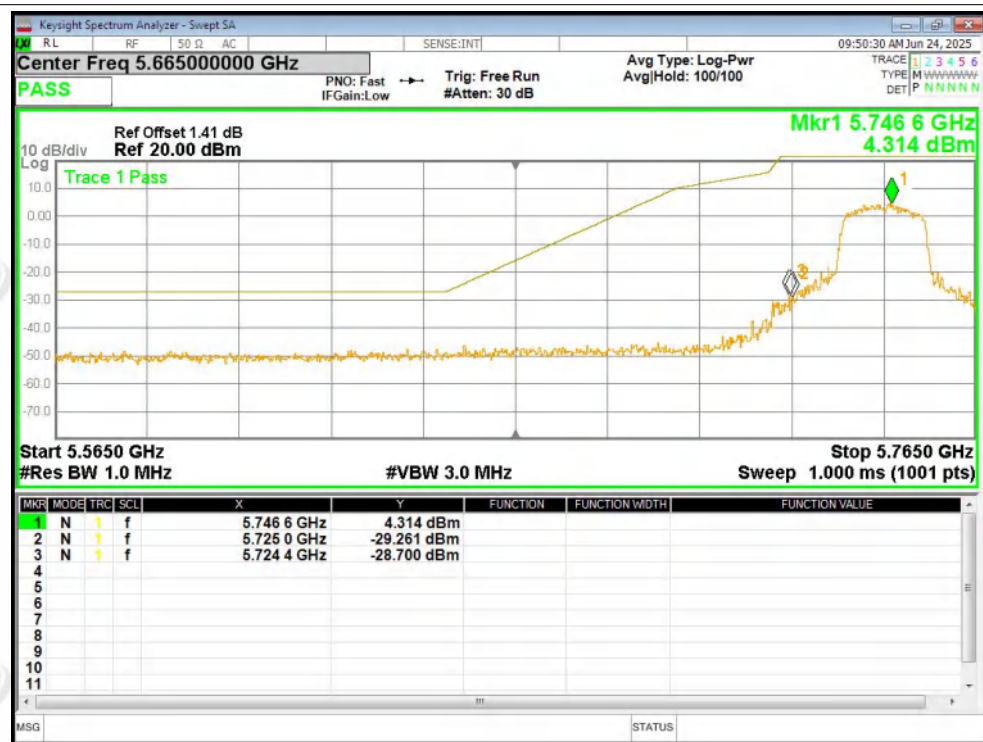


Band Edge NVNT n40 5795MHz High Ant1

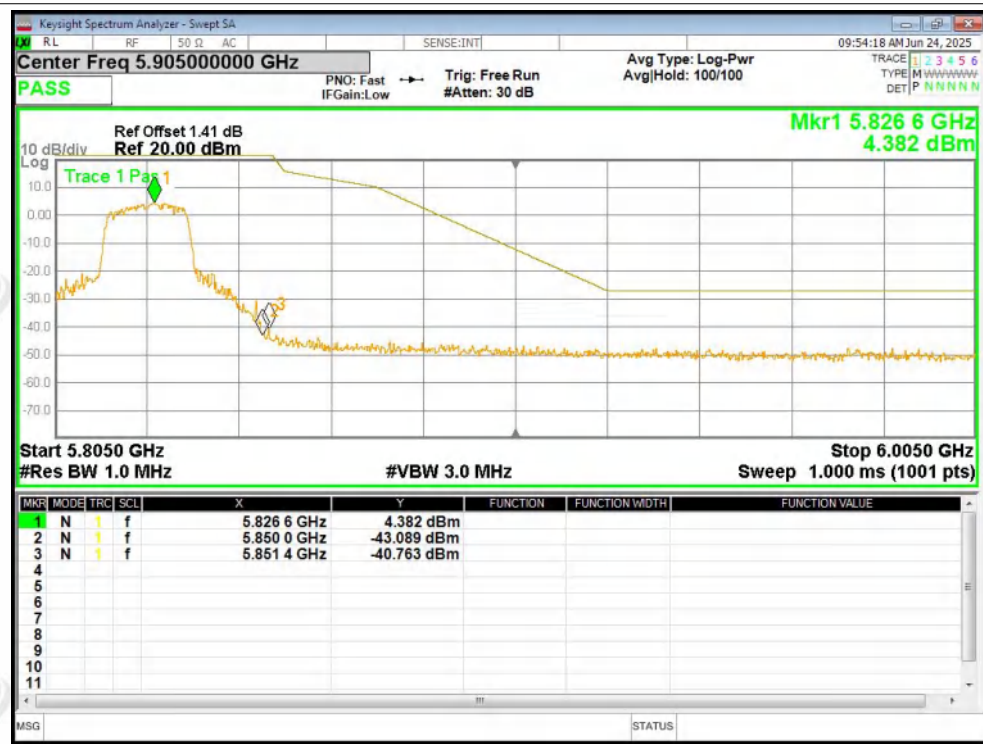




Band Edge NVNT ac20 5745MHz Low Ant1

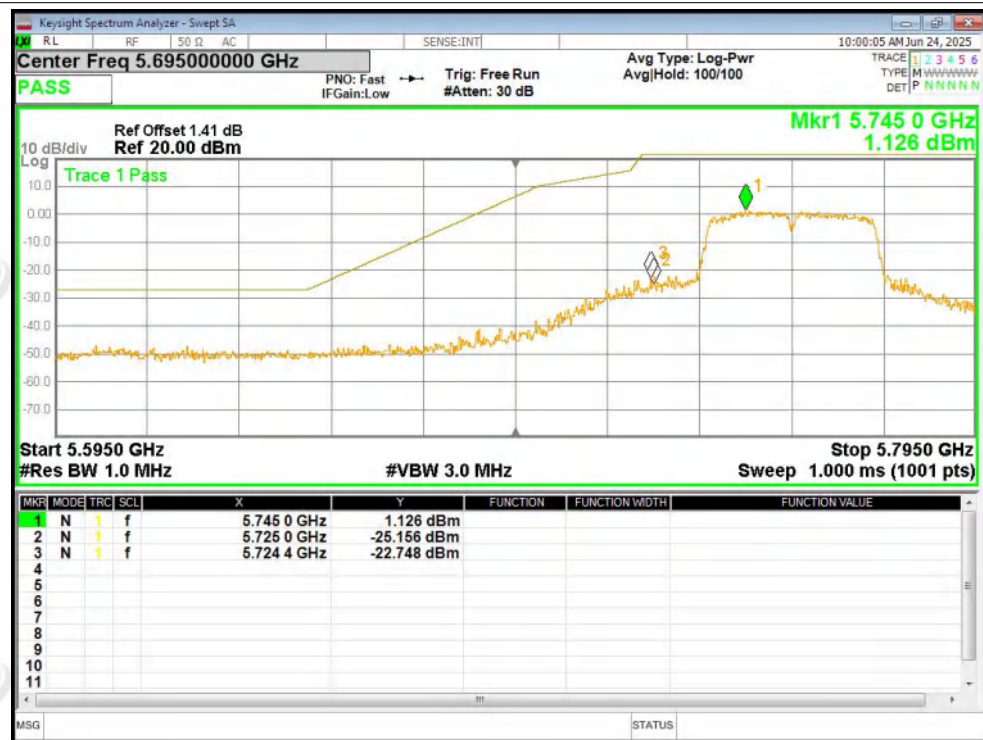


Band Edge NVNT ac20 5825MHz High Ant1

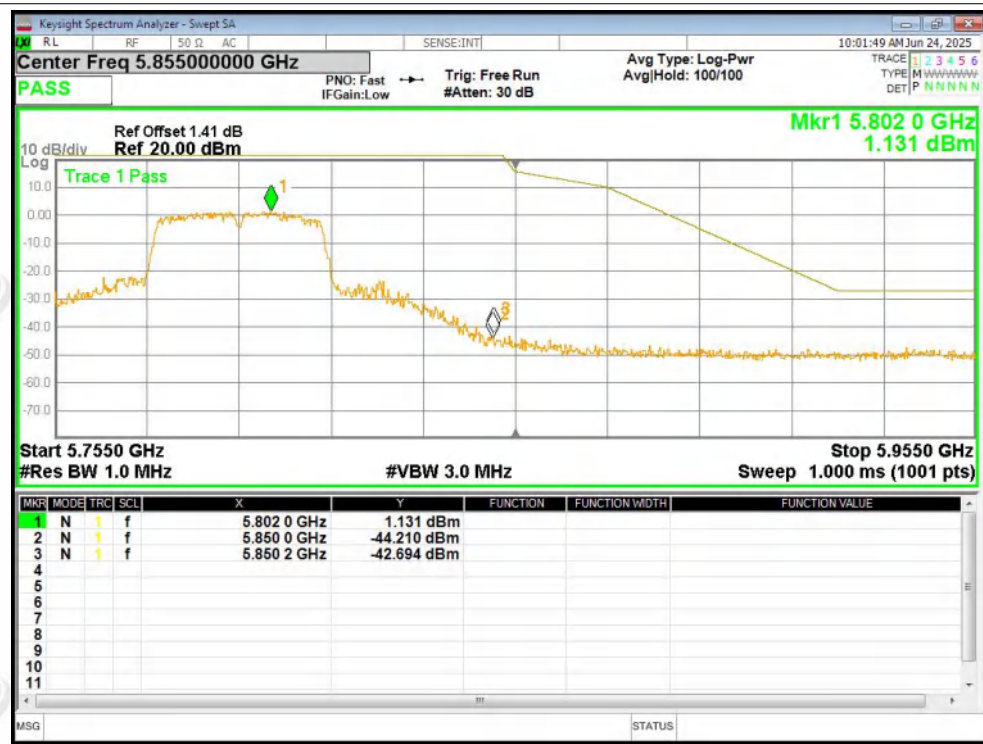




Band Edge NVNT ac40 5755MHz Low Ant1



Band Edge NVNT ac40 5795MHz High Ant1



**ZHONGHAN****Frequency Stability**

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5745	0	0	Within 5745-5825MHz	Pass
NVNT	a	5785	Ant1	5785	0	0		Pass
NVNT	a	5825	Ant1	5825.02	20000	3.43		Pass
NVNT	n20	5745	Ant1	5744.98	-20000	-3.48		Pass
NVNT	n20	5785	Ant1	5785.02	20000	3.46		Pass
NVNT	n20	5825	Ant1	5825.02	20000	3.43		Pass
NVNT	n40	5755	Ant1	5755	0	0	Within 5755-5795MHz	Pass
NVNT	n40	5795	Ant1	5795	0	0		Pass
NVNT	ac20	5745	Ant1	5745	0	0	Within 5745-5825MHz	Pass
NVNT	ac20	5785	Ant1	5785	0	0		Pass
NVNT	ac20	5825	Ant1	5825.02	20000	3.43		Pass
NVNT	ac40	5755	Ant1	5755	0	0	Within 5755-5795MHz	Pass
NVNT	ac40	5795	Ant1	5795	0	0		Pass

Note: Test temperature: -20° to + 70°. 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

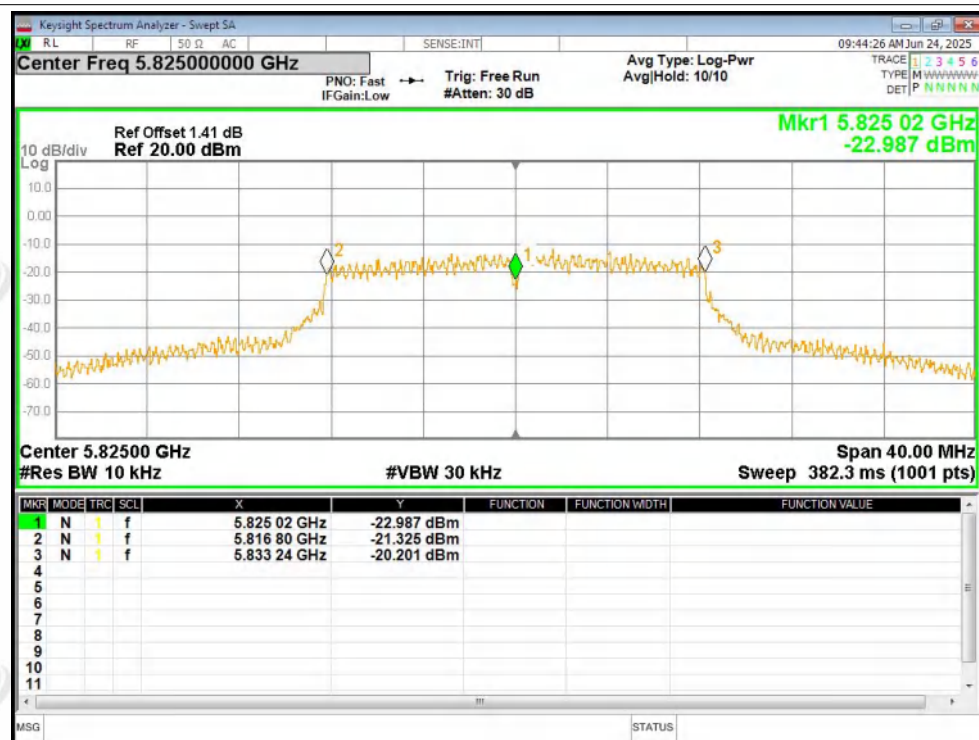


Freq. Stability NVNT a 5785MHz Ant1

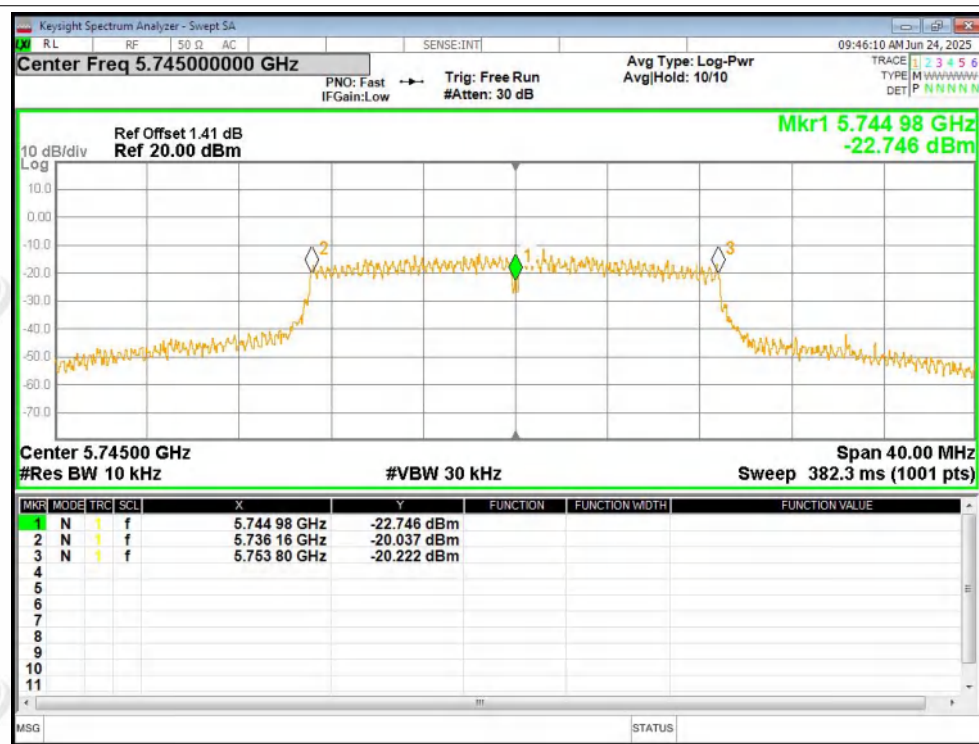




Freq. Stability NVNT a 5825MHz Ant1

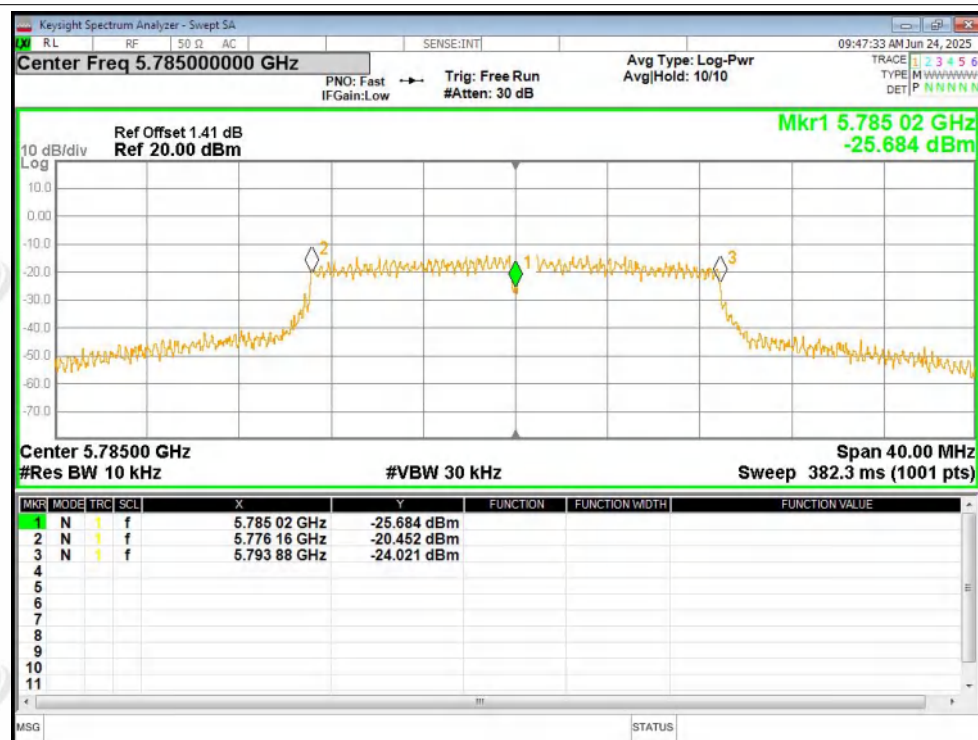


Freq. Stability NVNT n20 5745MHz Ant1

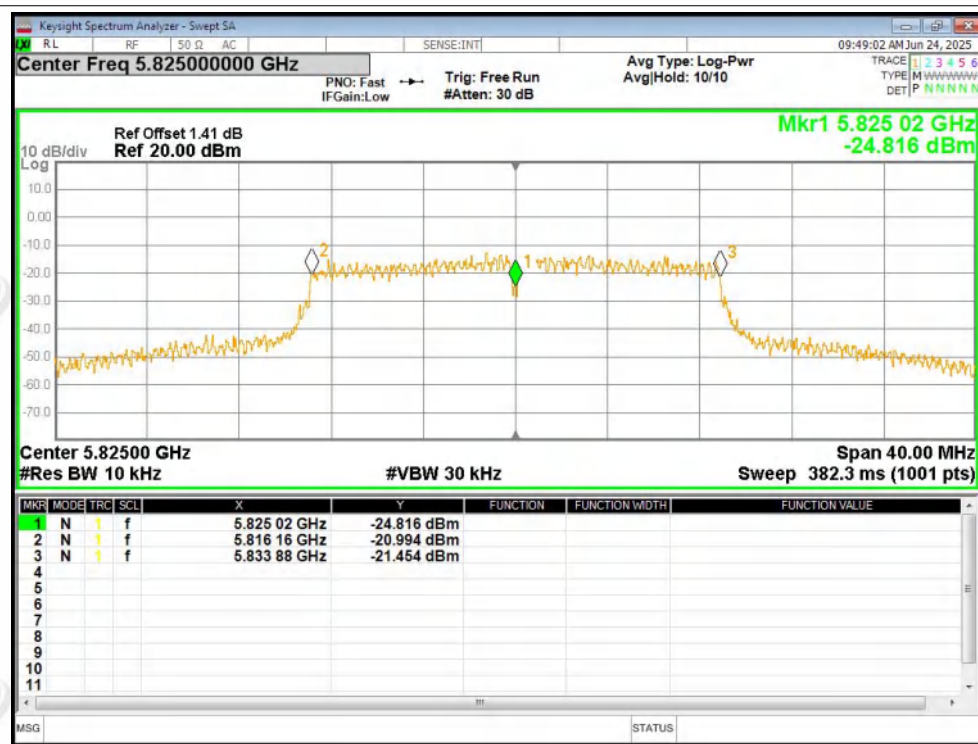




Freq. Stability NVNT n20 5785MHz Ant1

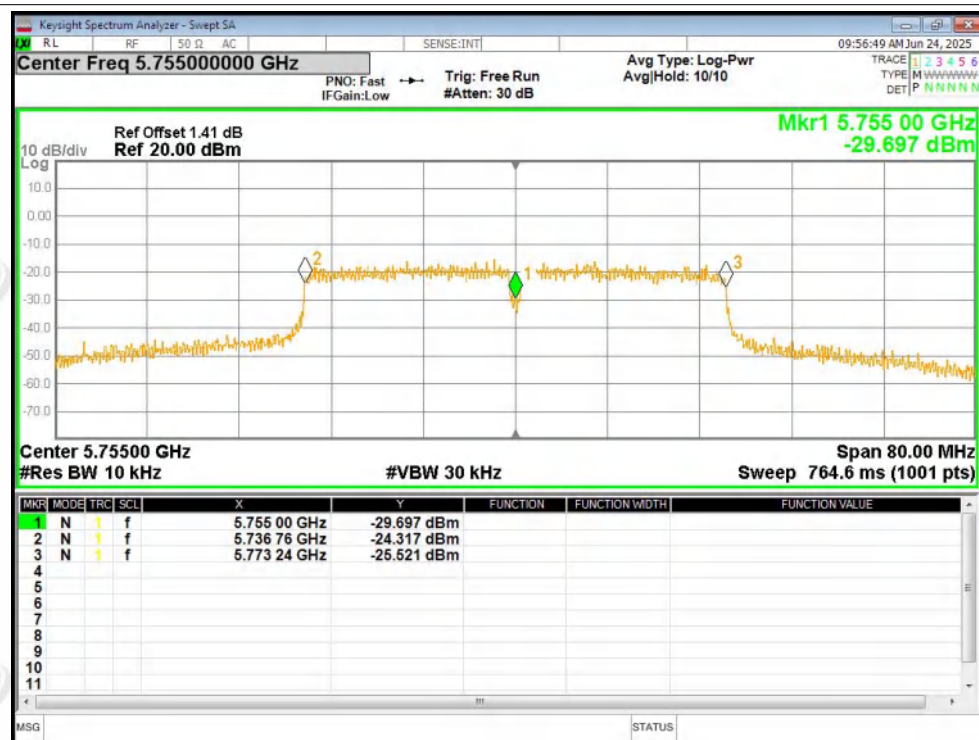


Freq. Stability NVNT n20 5825MHz Ant1





Freq. Stability NVNT n40 5755MHz Ant1

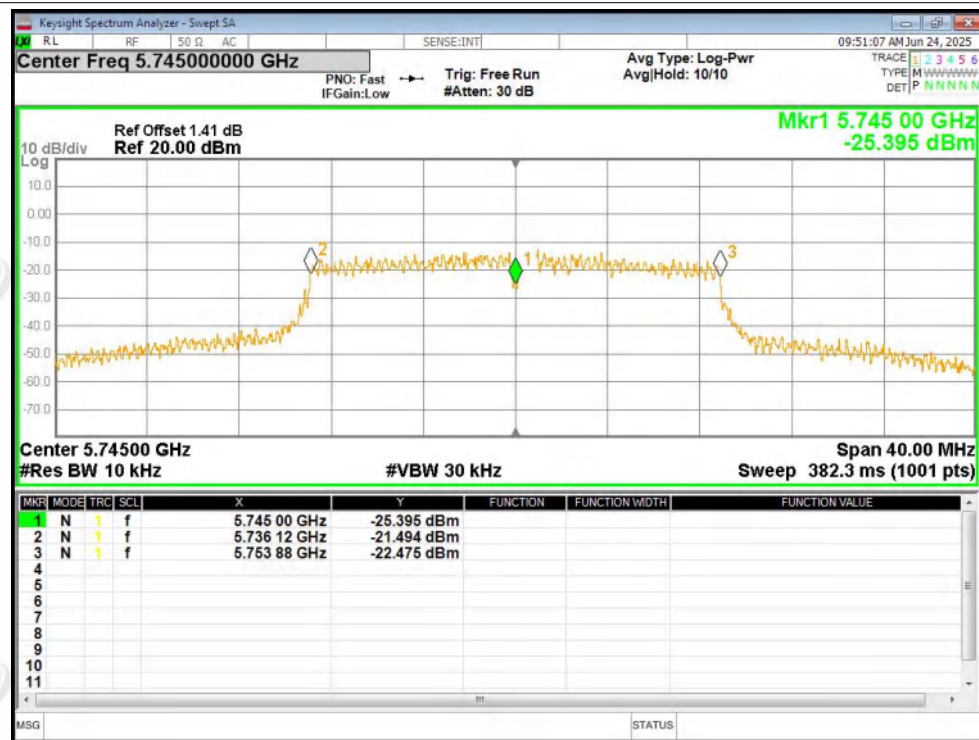


Freq. Stability NVNT n40 5795MHz Ant1

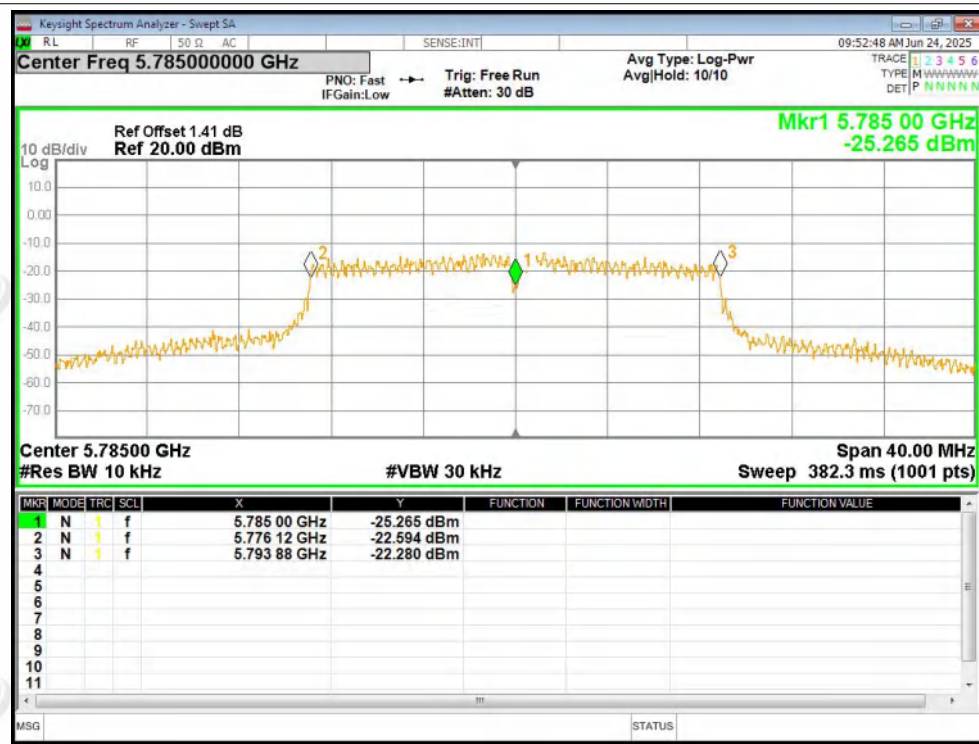




Freq. Stability NVNT ac20 5745MHz Ant1

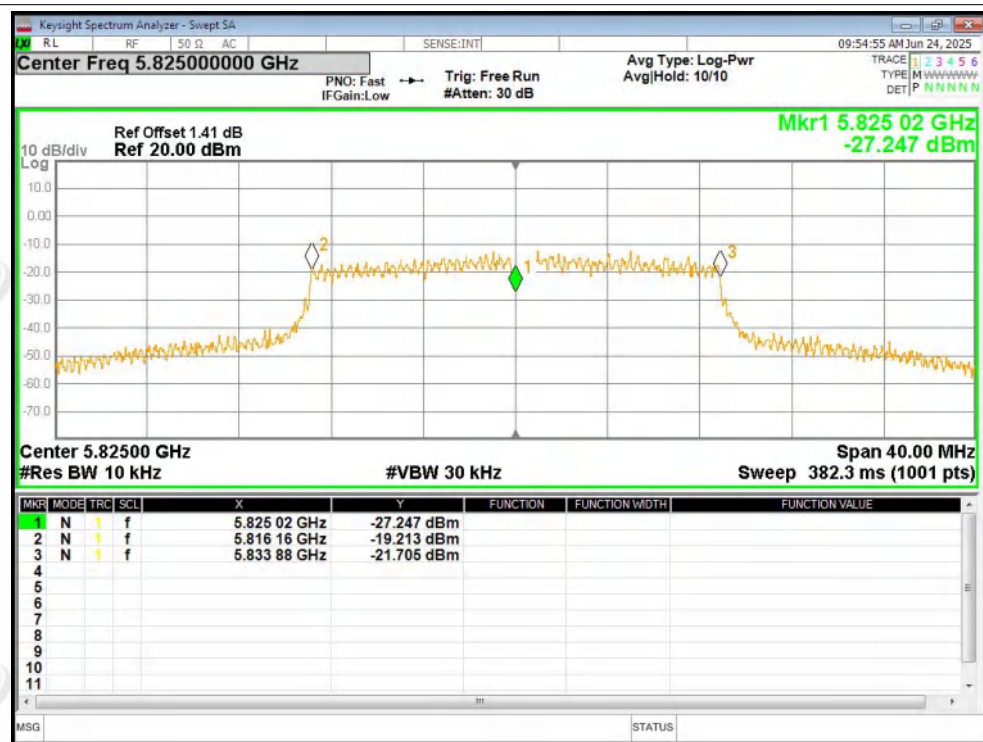


Freq. Stability NVNT ac20 5785MHz Ant1

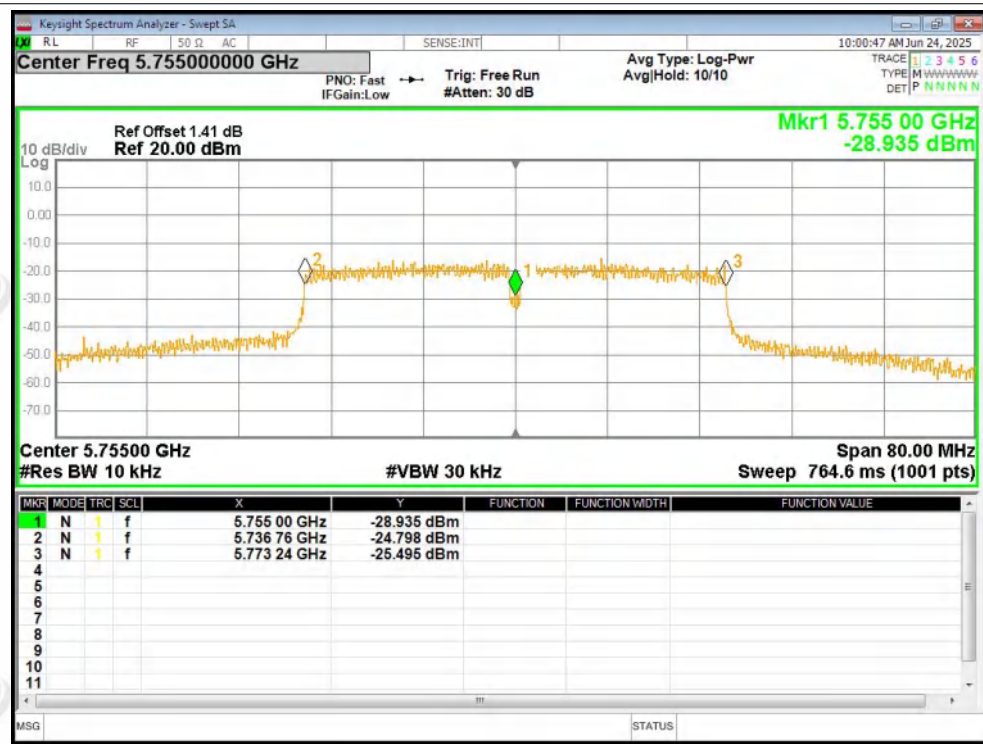




Freq. Stability NVNT ac20 5825MHz Ant1

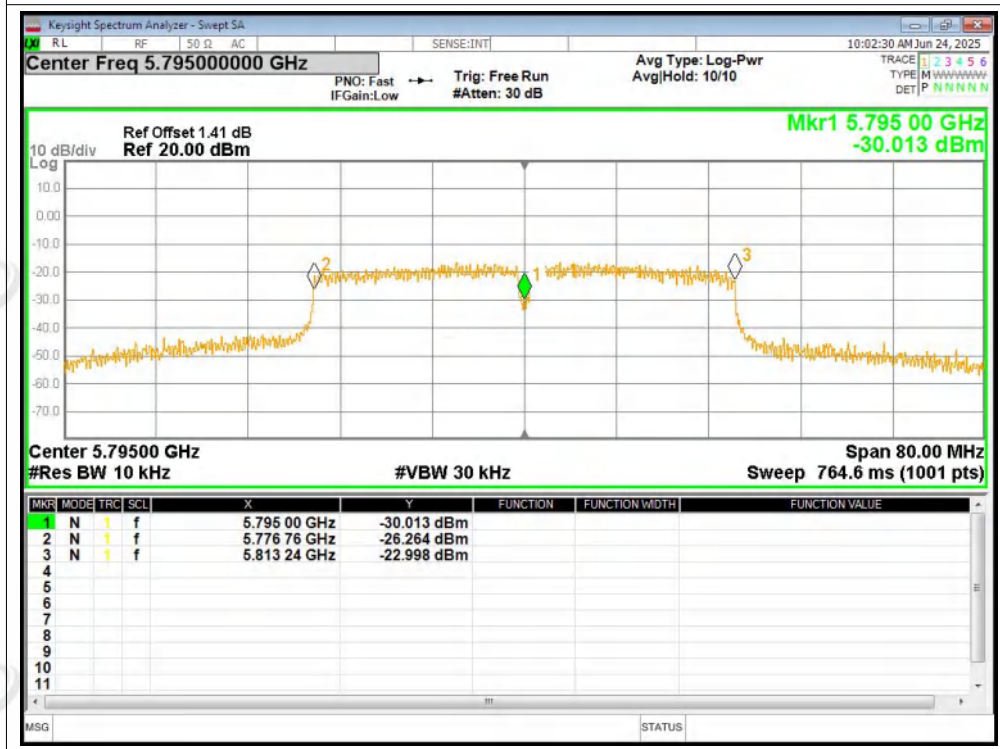


Freq. Stability NVNT ac40 5755MHz Ant1





Freq. Stability NVNT ac40 5795MHz Ant1



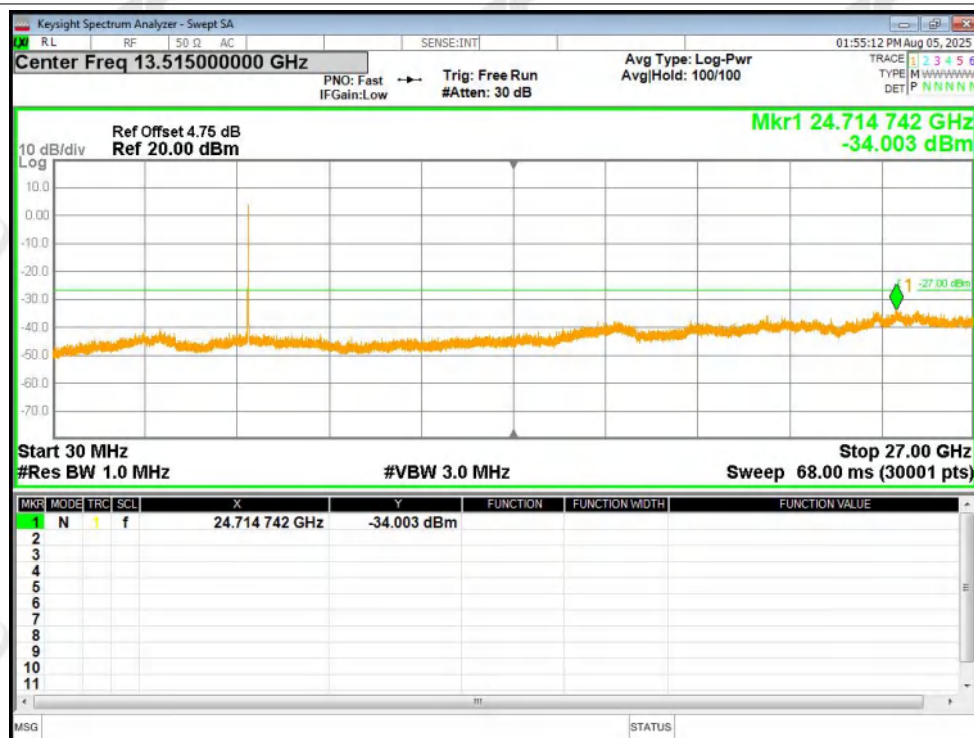
**ZHONGHAN****Conducted RF Spurious Emission**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-34	-27	Pass
NVNT	a	5785	Ant1	-32.58	-27	Pass
NVNT	a	5825	Ant1	-32.87	-27	Pass
NVNT	n20	5745	Ant1	-34.19	-27	Pass
NVNT	n20	5785	Ant1	-33.45	-27	Pass
NVNT	n20	5825	Ant1	-33.46	-27	Pass
NVNT	n40	5755	Ant1	-33.67	-27	Pass
NVNT	n40	5795	Ant1	-33.53	-27	Pass
NVNT	ac20	5745	Ant1	-33.64	-27	Pass
NVNT	ac20	5785	Ant1	-33.83	-27	Pass
NVNT	ac20	5825	Ant1	-34.1	-27	Pass
NVNT	ac40	5755	Ant1	-33.47	-27	Pass
NVNT	ac40	5795	Ant1	-33.92	-27	Pass

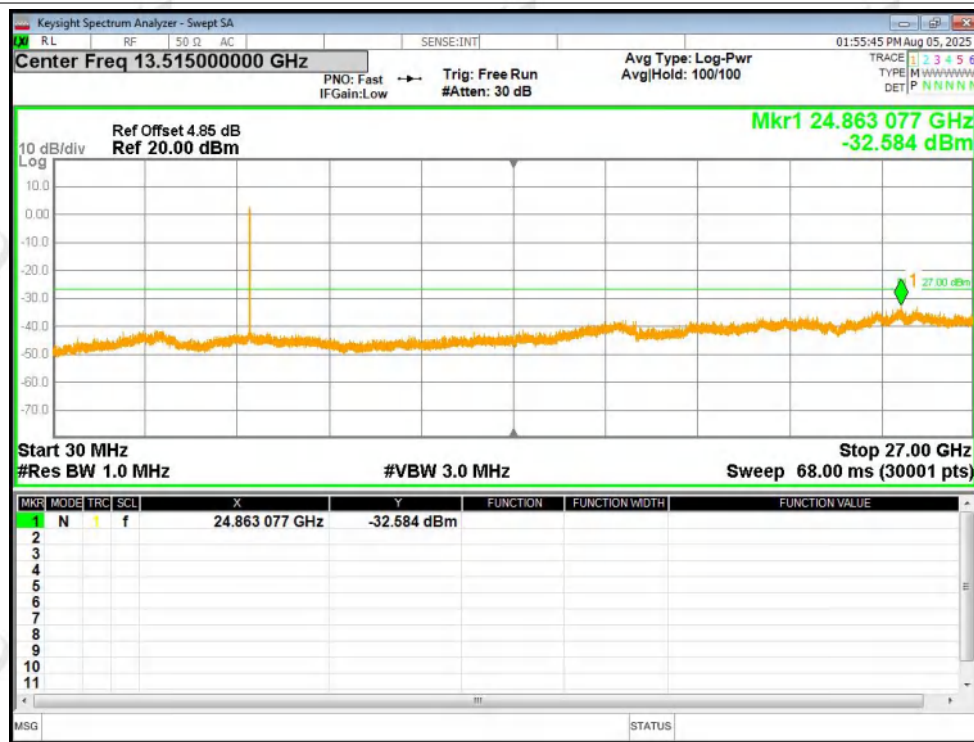
Note: input compensation coefficient (dB)= Cable Loss (dB)

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

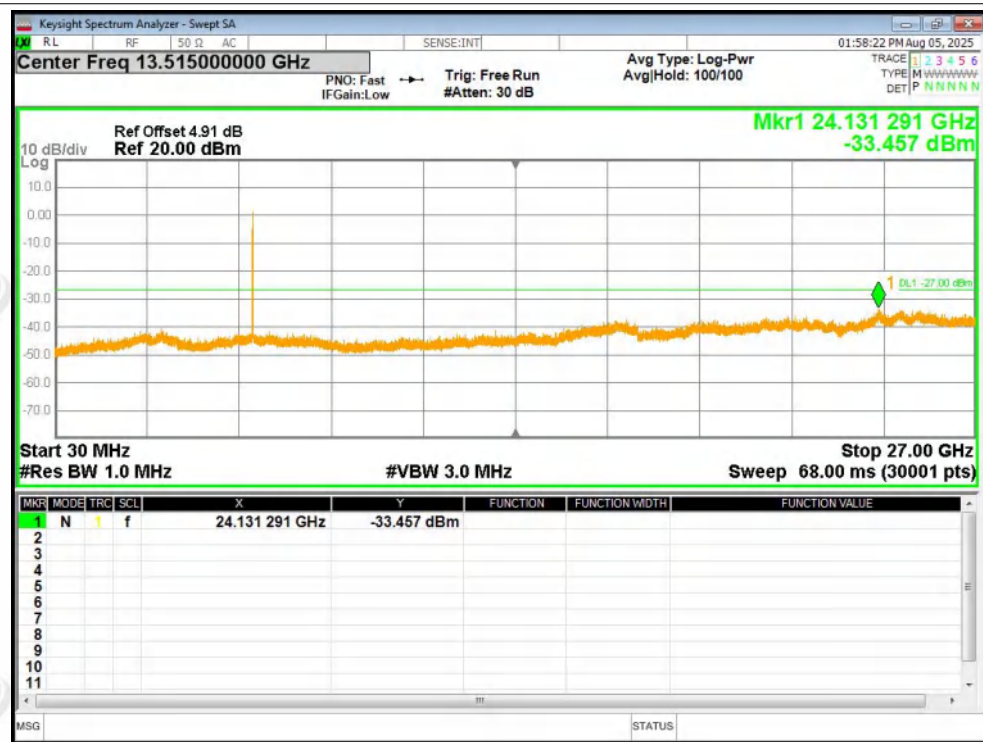




Tx. Spurious NVNT n20 5785MHz Ant1 Emission

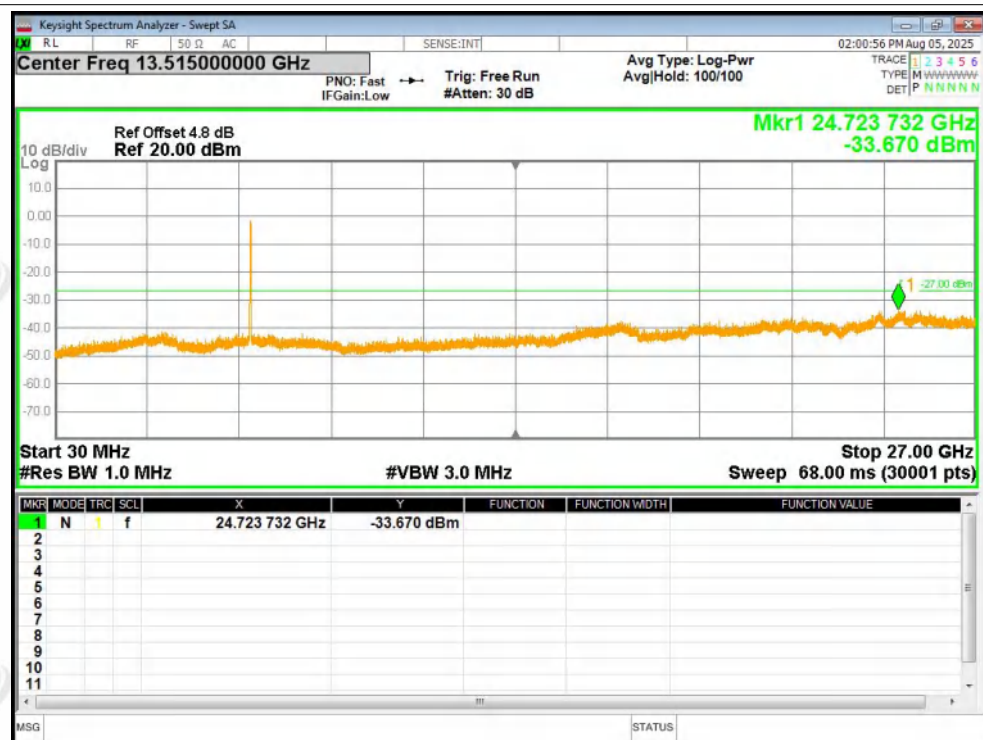


Tx. Spurious NVNT n20 5825MHz Ant1 Emission





Tx. Spurious NVNT n40 5755MHz Ant1 Emission



Tx. Spurious NVNT n40 5795MHz Ant1 Emission

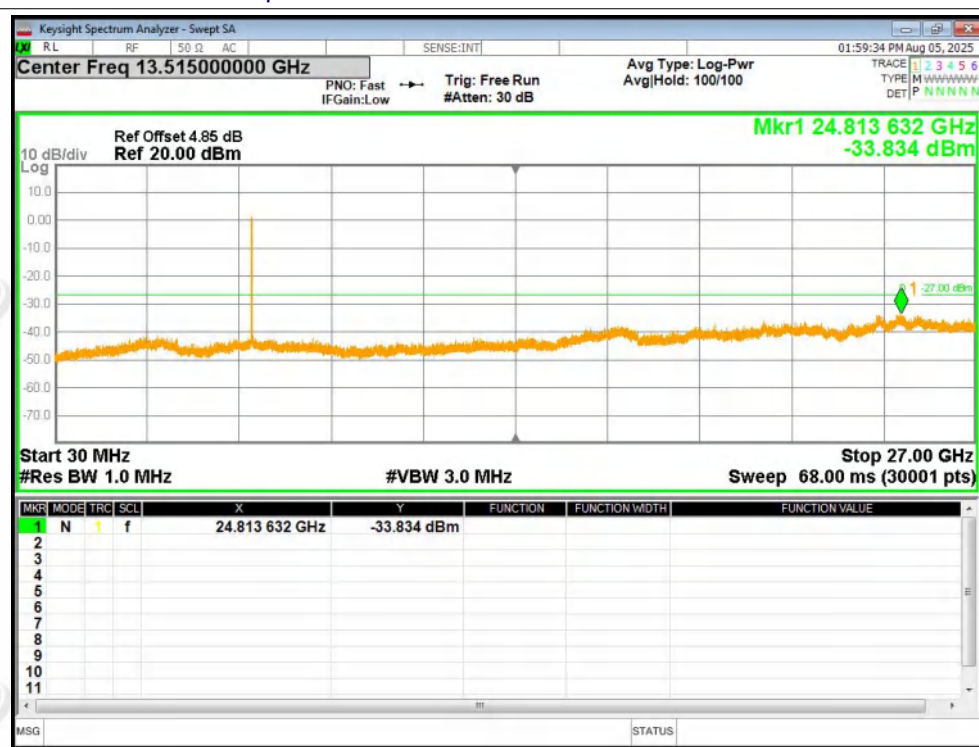




Tx. Spurious NVNT ac20 5745MHz Ant1 Emission



Tx. Spurious NVNT ac20 5785MHz Ant1 Emission





Tx. Spurious NVNT ac20 5825MHz Ant1 Emission



Tx. Spurious NVNT ac40 5755MHz Ant1 Emission





Tx. Spurious NVNT ac40 5795MHz Ant1 Emission

