Appendix A

RF Test Data for 5.8GWIFI (Conducted Measurement)

Product Name: MK32 Handheld Ground Station

Test Model: MK32

Environmental Conditions

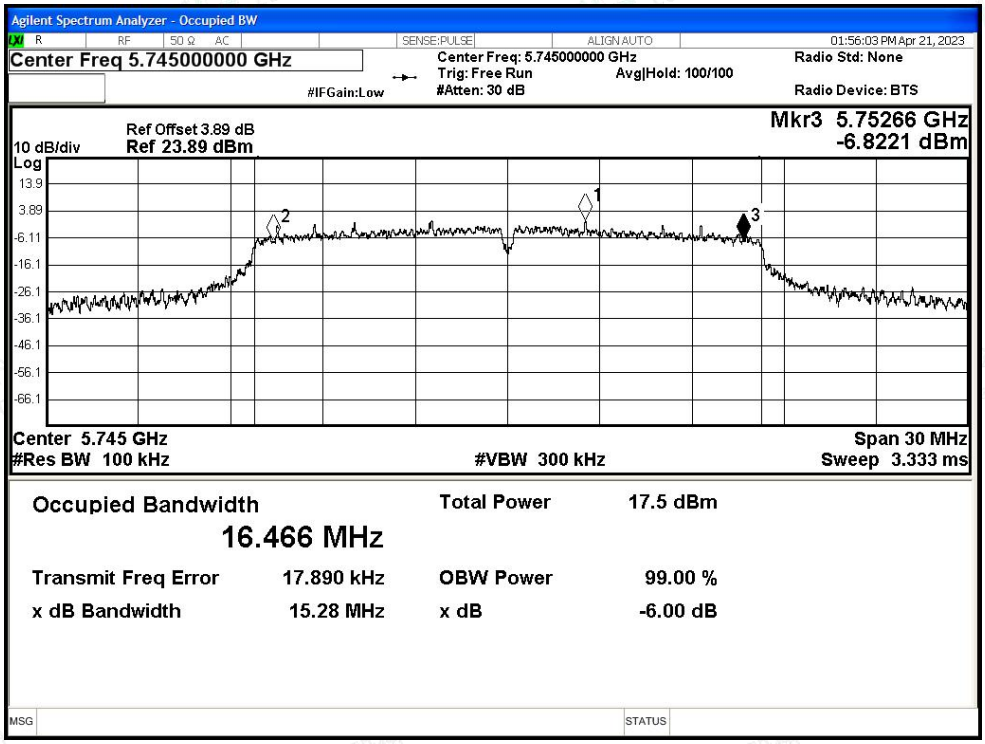
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Mening Su
Supervised by:	Ling Zhu

A.1 -6dB Bandwidth

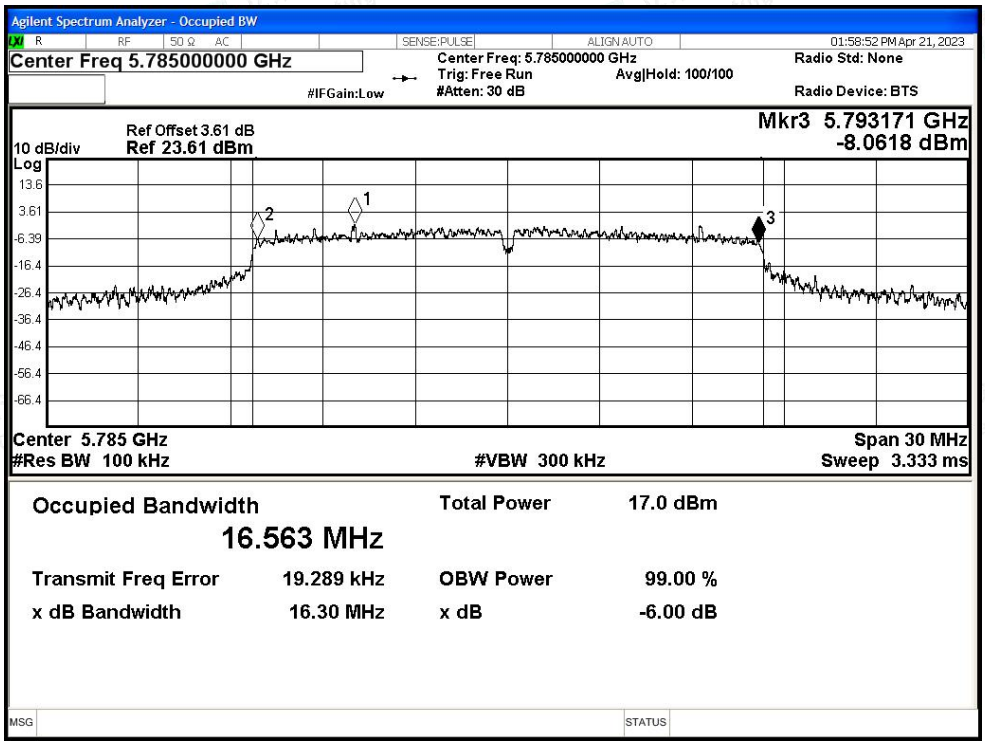
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant0	15.285	>=0.5	Pass
NVNT	a	5785	Ant0	16.302	>=0.5	Pass
NVNT	a	5825	Ant0	15.104	>=0.5	Pass

Test Graphs

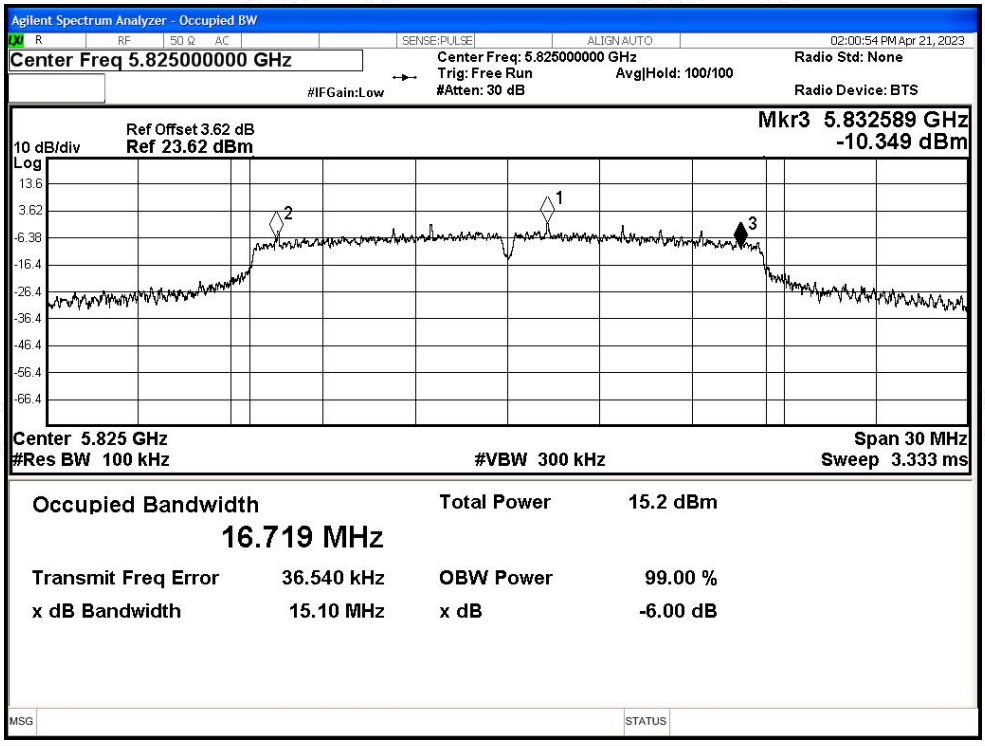
-6dB Bandwidth NVNT a 5745MHz Ant0



-6dB Bandwidth NVNT a 5785MHz Ant0



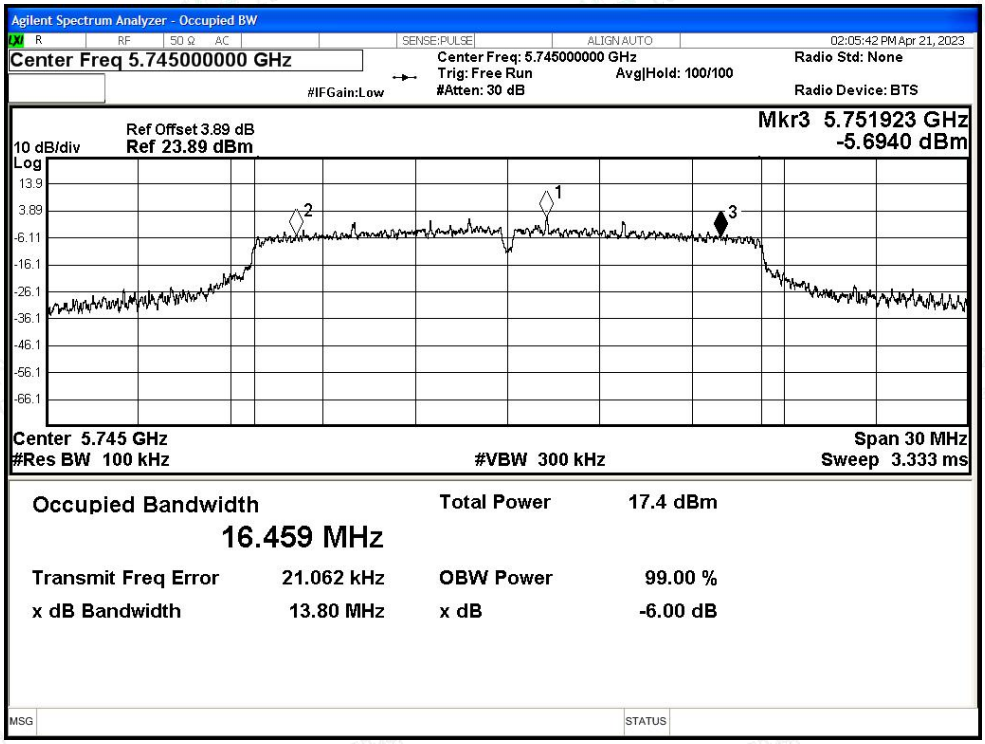
-6dB Bandwidth NVNT a 5825MHz Ant0



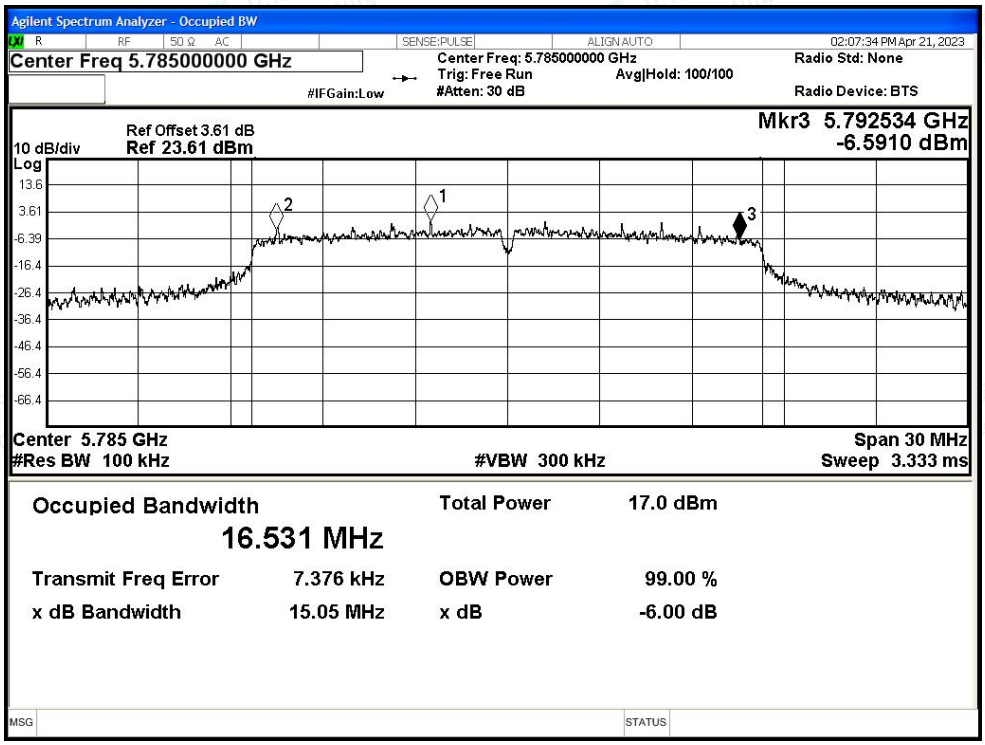
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	13.803	>=0.5	Pass
NVNT	a	5785	Ant1	15.053	>=0.5	Pass
NVNT	a	5825	Ant1	15.324	>=0.5	Pass

Test Graphs

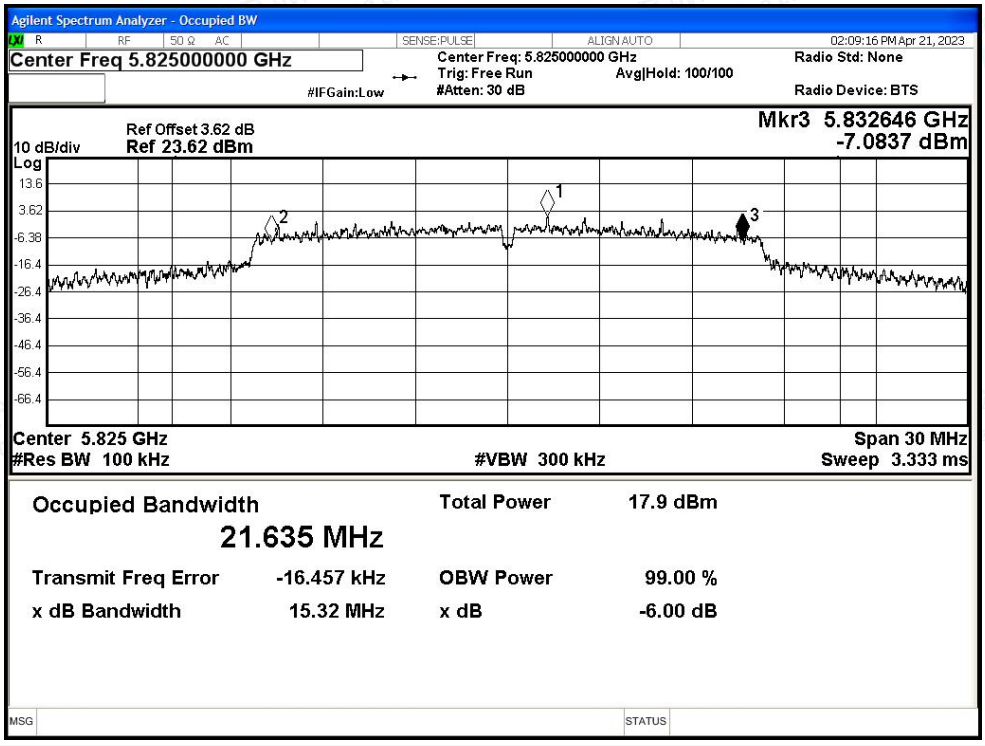
-6dB Bandwidth NVNT a 5745MHz Ant1



-6dB Bandwidth NVNT a 5785MHz Ant1



-6dB Bandwidth NVNT a 5825MHz Ant1



A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant0	6.58	0.13	6.71	30	Pass
NVNT	a	5785	Ant0	6.11	0.13	6.24	30	Pass
NVNT	a	5825	Ant0	6.63	0.13	6.76	30	Pass

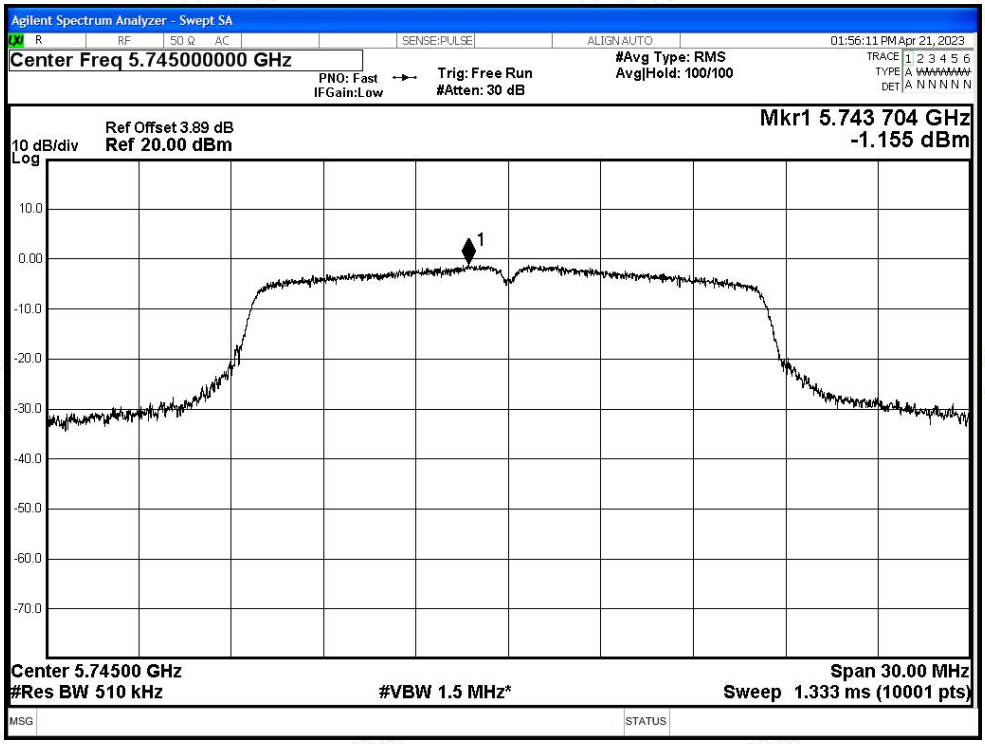
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	6.50	0.13	6.63	30	Pass
NVNT	a	5785	Ant1	6.05	0.13	6.18	30	Pass
NVNT	a	5825	Ant1	6.60	0.13	6.73	30	Pass

A.3 Maximum Power Spectral Density Level

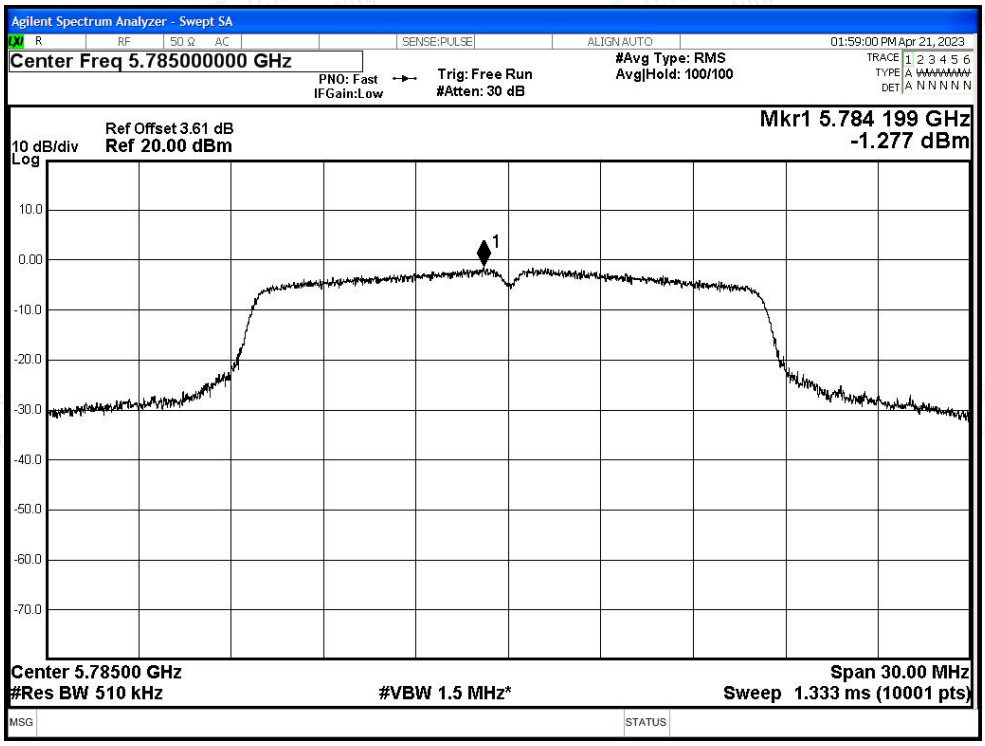
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant0	-1.16	0.13	-1.03	30	Pass
NVNT	a	5785	Ant0	-1.28	0.13	-1.15	30	Pass
NVNT	a	5825	Ant0	-0.69	0.13	-0.56	30	Pass

Test Graphs

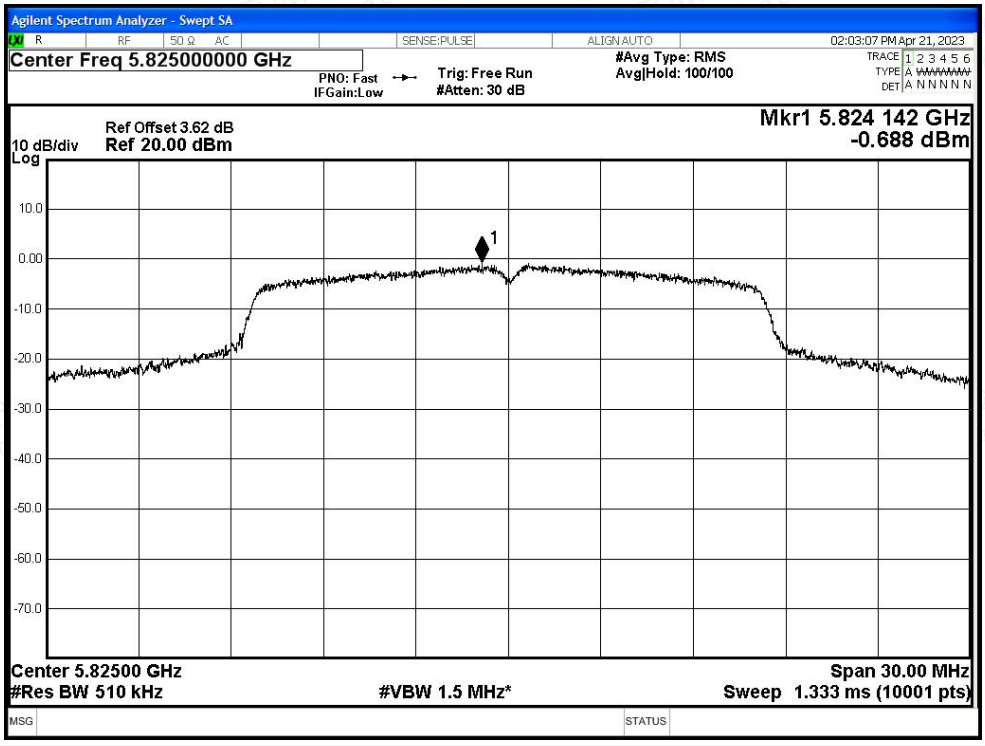
PSD NVNT a 5745MHz Ant0



PSD NVNT a 5785MHz Ant0



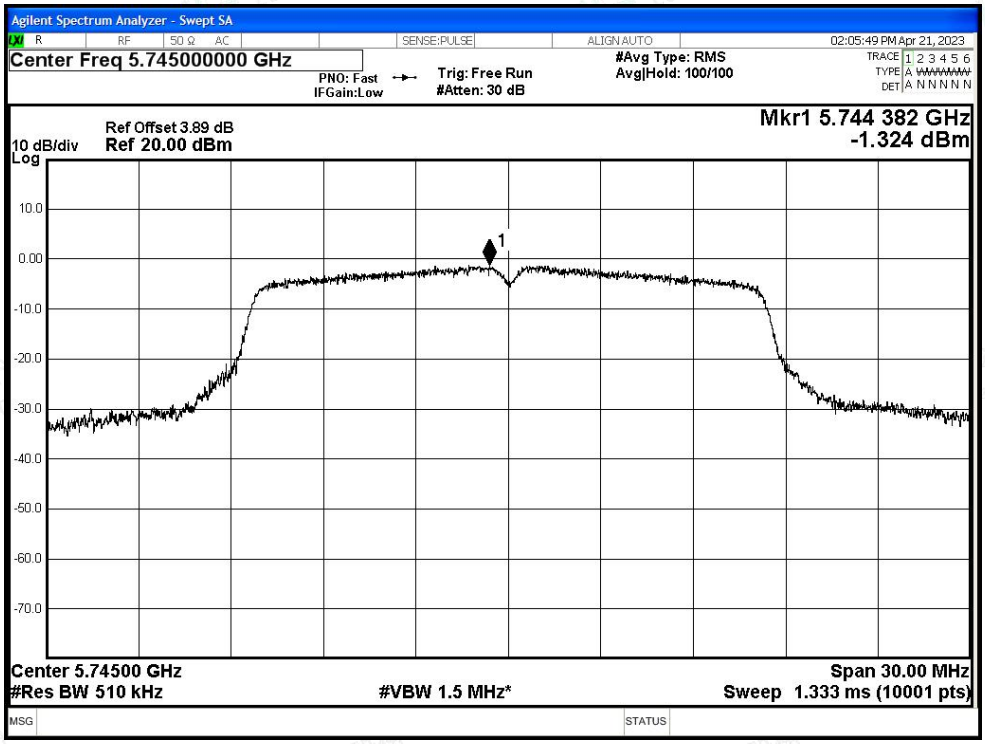
PSD NVNT a 5825MHz Ant0



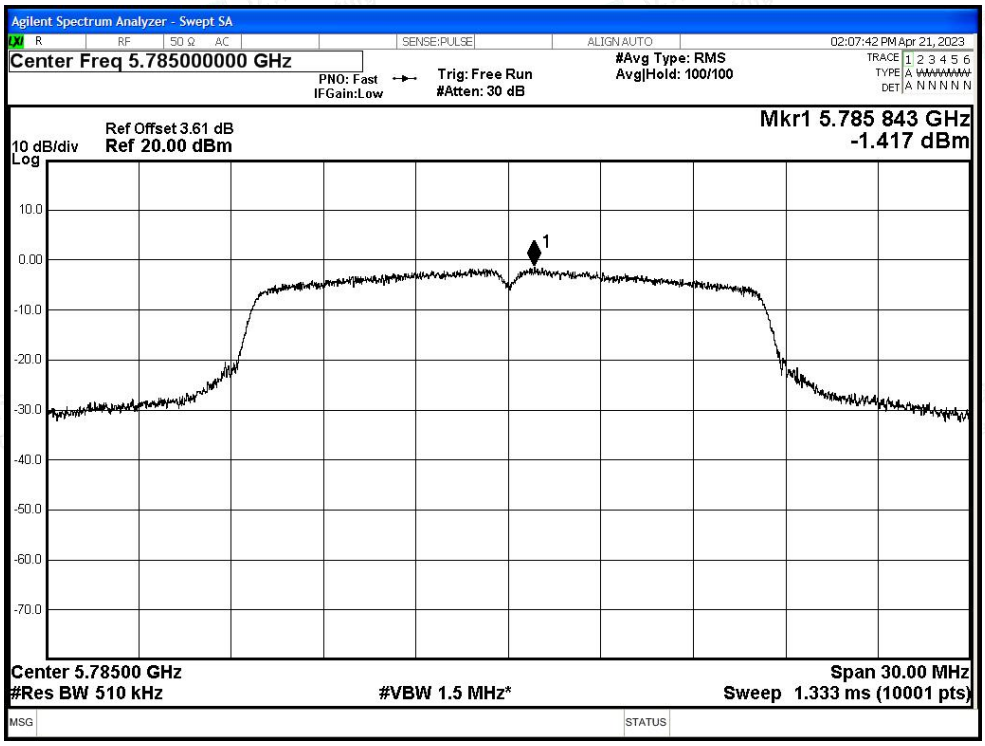
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-1.32	0.13	-1.19	30	Pass
NVNT	a	5785	Ant1	-1.42	0.13	-1.29	30	Pass
NVNT	a	5825	Ant1	-1.1	0.13	-0.97	30	Pass

Test Graphs

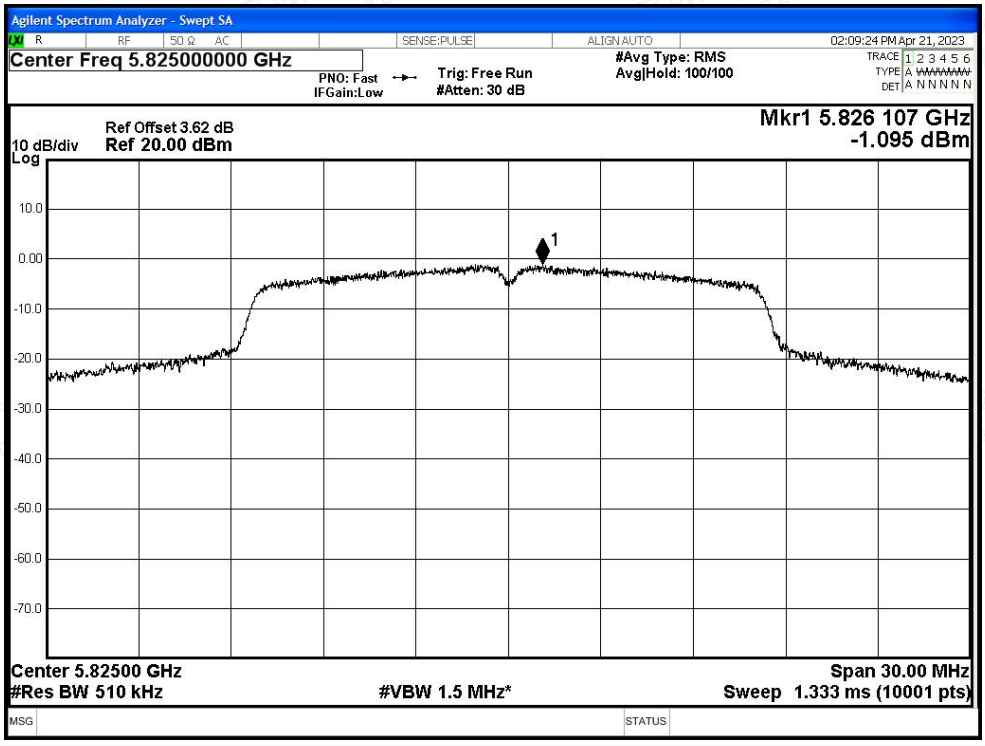
PSD NVNT a 5745MHz Ant1



PSD NVNT a 5785MHz Ant1



PSD NVNT a 5825MHz Ant1

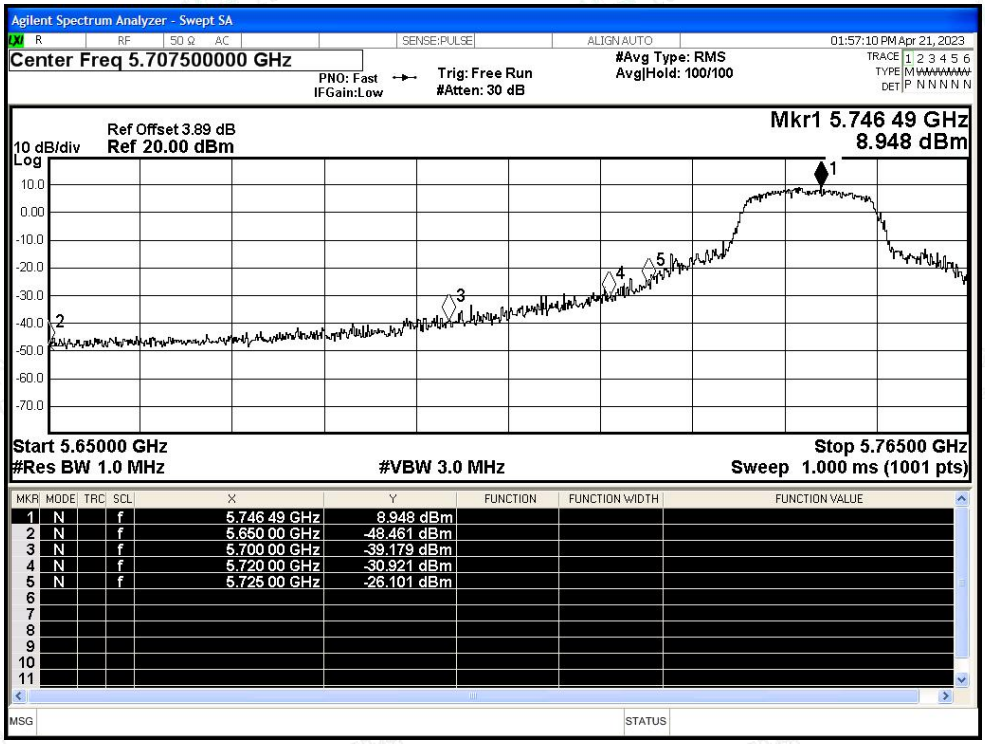


A.4 Restrict Band

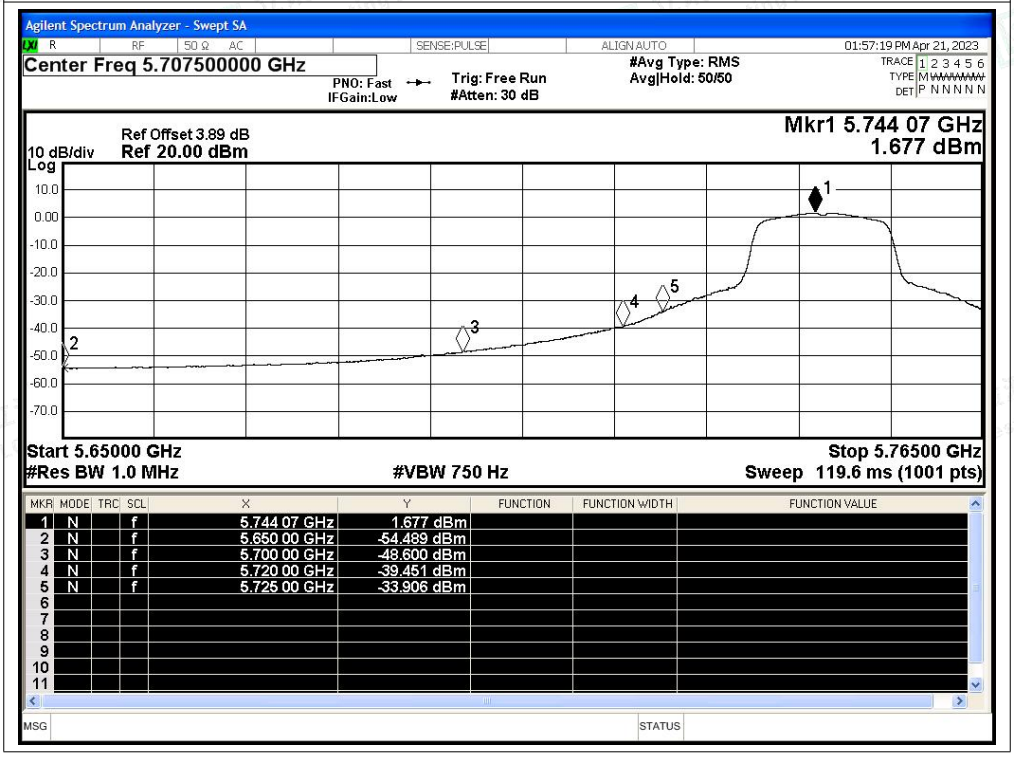
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant0	5650	-48.46	4.91	-43.55	Peak	-27	Pass
NVNT	a	5745	Ant0	5650	-54.49	4.91	-49.58	Average	-27	Pass
NVNT	a	5745	Ant0	5700	-39.18	4.91	-34.27	Peak	10	Pass
NVNT	a	5745	Ant0	5700	-48.6	4.91	-43.69	Average	10	Pass
NVNT	a	5745	Ant0	5720	-30.92	4.91	-26.01	Peak	15.6	Pass
NVNT	a	5745	Ant0	5720	-39.45	4.91	-34.54	Average	15.6	Pass
NVNT	a	5745	Ant0	5725	-26.1	4.91	-21.19	Peak	27	Pass
NVNT	a	5745	Ant0	5725	-33.91	4.91	-29.00	Average	27	Pass
NVNT	a	5825	Ant0	5850	-29.54	4.91	-24.63	Peak	27	Pass
NVNT	a	5825	Ant0	5850	-41.22	4.91	-36.31	Average	27	Pass
NVNT	a	5825	Ant0	5855	-38.7	4.91	-33.79	Peak	15.6	Pass
NVNT	a	5825	Ant0	5855	-44.48	4.91	-39.57	Average	15.6	Pass
NVNT	a	5825	Ant0	5875	-43.55	4.91	-38.64	Peak	10	Pass
NVNT	a	5825	Ant0	5875	-53.56	4.91	-48.65	Average	10	Pass
NVNT	a	5825	Ant0	5925	-47.6	4.91	-42.69	Peak	-27	Pass
NVNT	a	5825	Ant0	5925	-55.69	4.91	-50.78	Average	-27	Pass

Test Graphs

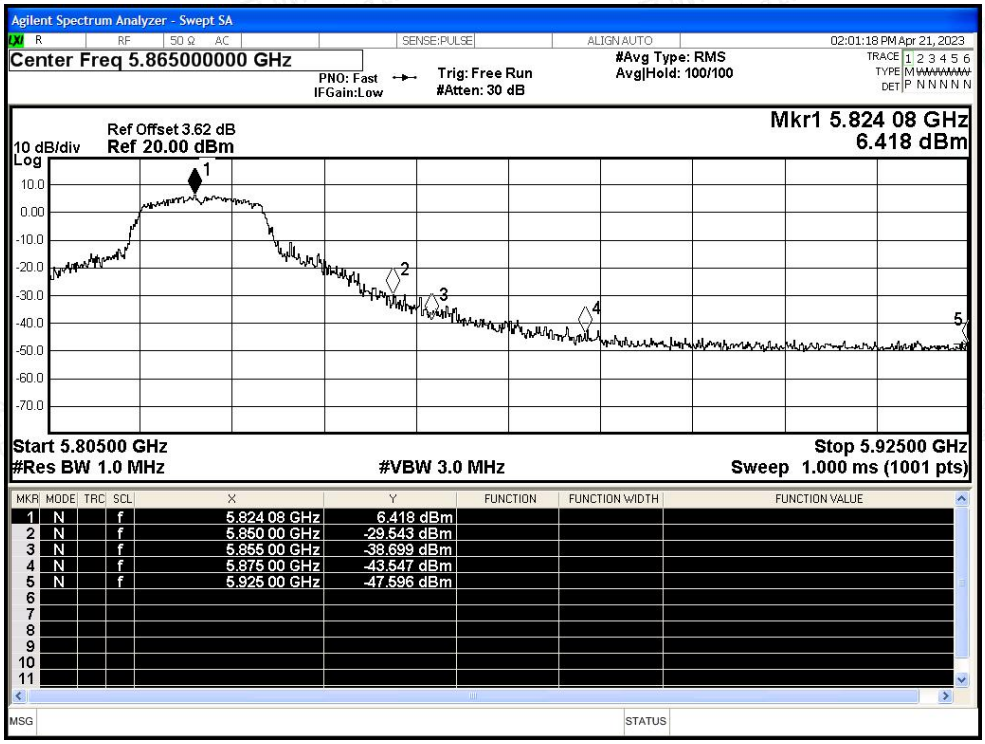
Restrict Band NVNT a 5745MHz Ant0 Peak



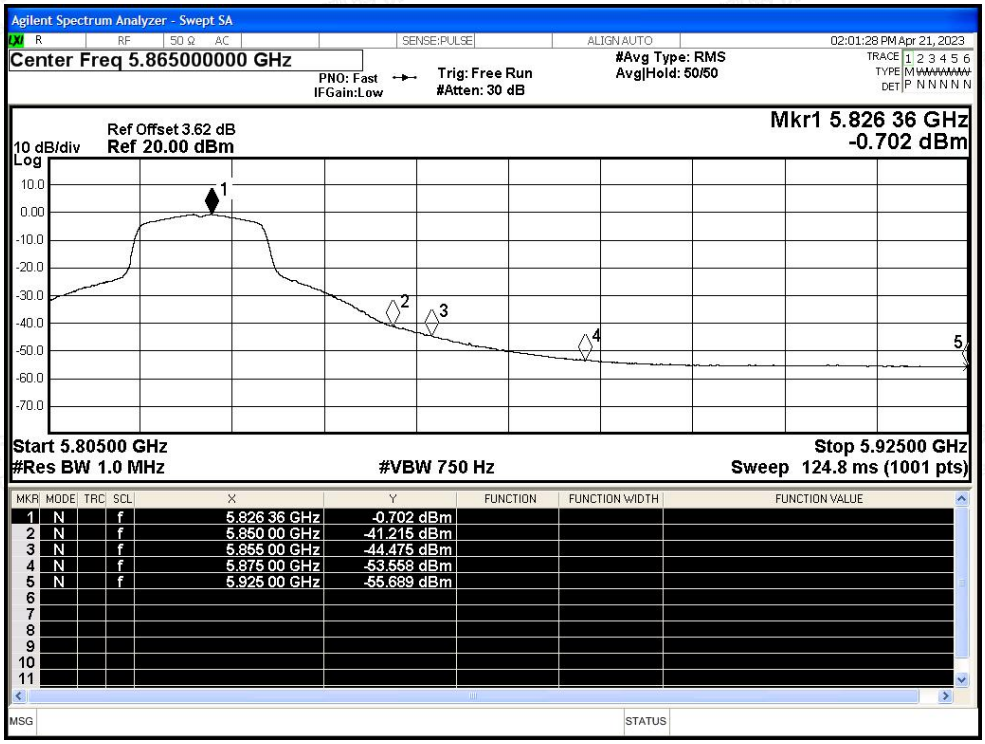
Restrict Band NVNT a 5745MHz Ant0 Average



Restrict Band NVNT a 5825MHz Ant0 Peak



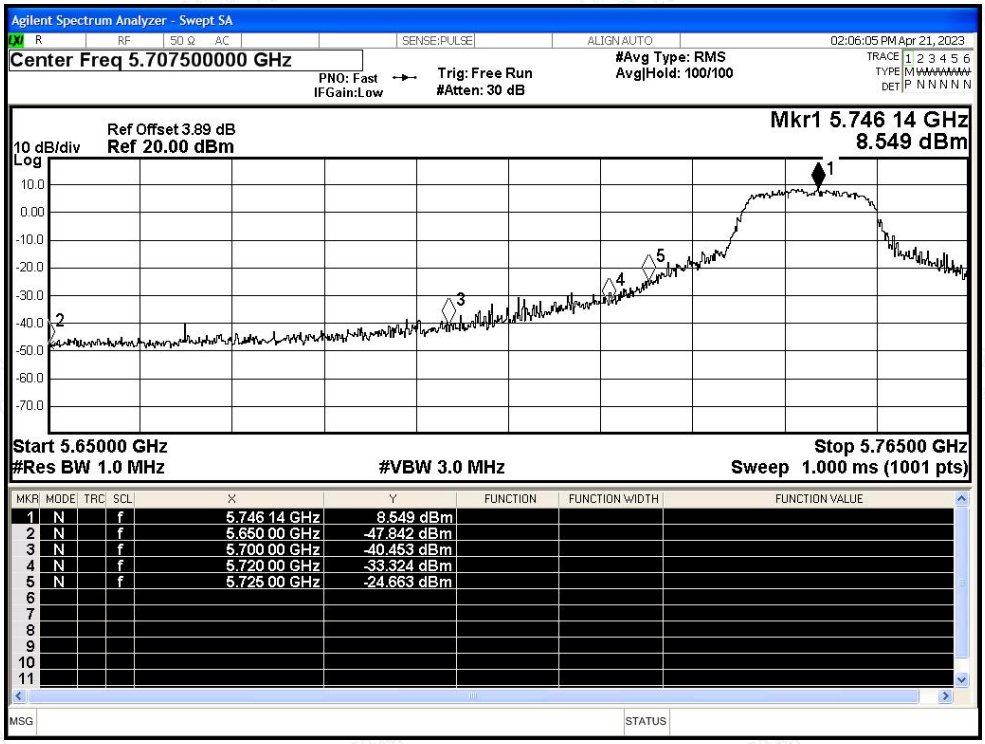
Restrict Band NVNT a 5825MHz Ant0 Average



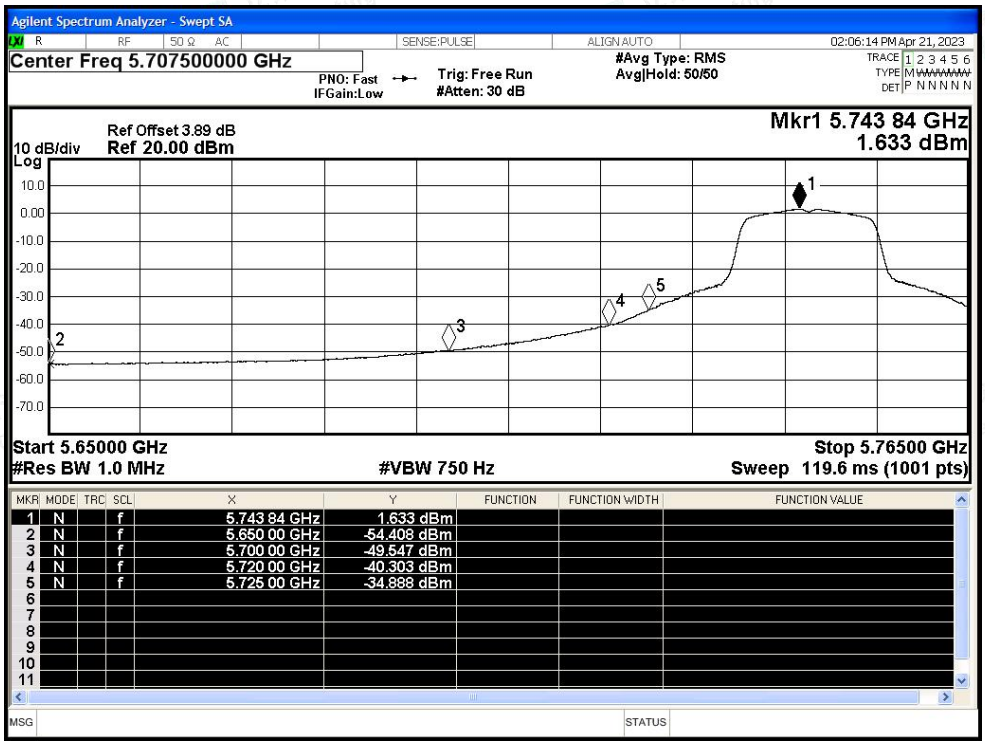
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	5650	-47.84	4.91	-42.93	Peak	-27	Pass
NVNT	a	5745	Ant1	5650	-54.41	4.91	-49.50	Average	-27	Pass
NVNT	a	5745	Ant1	5700	-40.45	4.91	-35.54	Peak	10	Pass
NVNT	a	5745	Ant1	5700	-49.55	4.91	-44.64	Average	10	Pass
NVNT	a	5745	Ant1	5720	-33.32	4.91	-28.41	Peak	15.6	Pass
NVNT	a	5745	Ant1	5720	-40.3	4.91	-35.39	Average	15.6	Pass
NVNT	a	5745	Ant1	5725	-24.66	4.91	-19.75	Peak	27	Pass
NVNT	a	5745	Ant1	5725	-34.89	4.91	-29.98	Average	27	Pass
NVNT	a	5825	Ant1	5850	-25.21	4.91	-20.30	Peak	27	Pass
NVNT	a	5825	Ant1	5850	-33.03	4.91	-28.12	Average	27	Pass
NVNT	a	5825	Ant1	5855	-27.96	4.91	-23.05	Peak	15.6	Pass
NVNT	a	5825	Ant1	5855	-37.4	4.91	-32.49	Average	15.6	Pass
NVNT	a	5825	Ant1	5875	-40.62	4.91	-35.71	Peak	10	Pass
NVNT	a	5825	Ant1	5875	-49.12	4.91	-44.21	Average	10	Pass
NVNT	a	5825	Ant1	5925	-48.33	4.91	-43.42	Peak	-27	Pass
NVNT	a	5825	Ant1	5925	-55.34	4.91	-50.43	Average	-27	Pass

Test Graphs

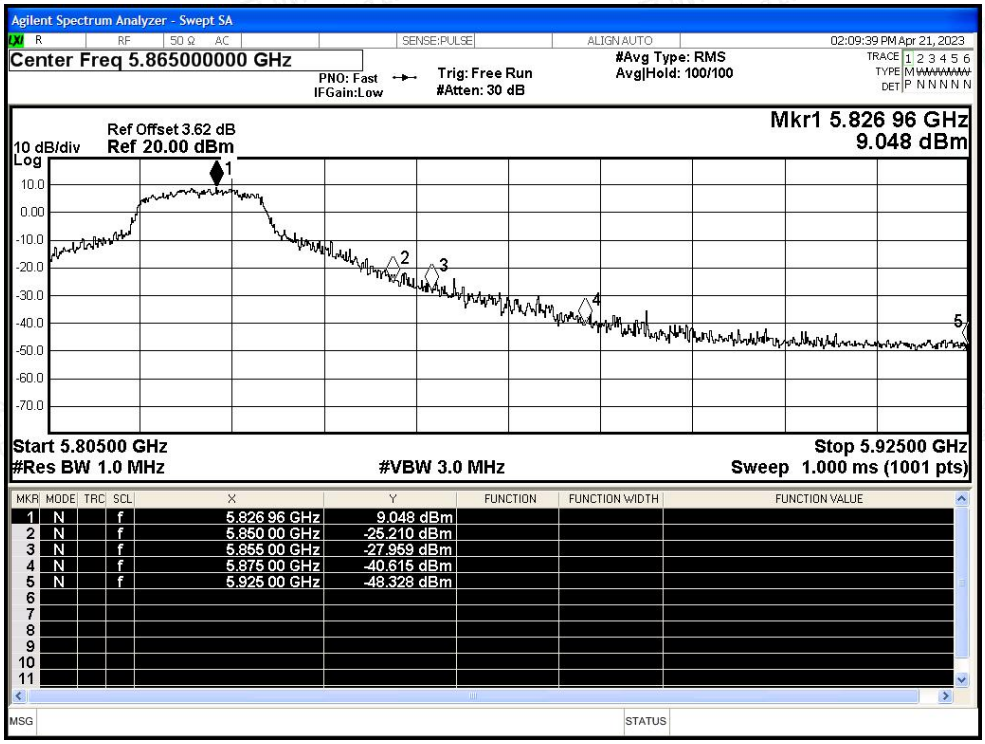
Restrict Band NVNT a 5745MHz Ant1 Peak



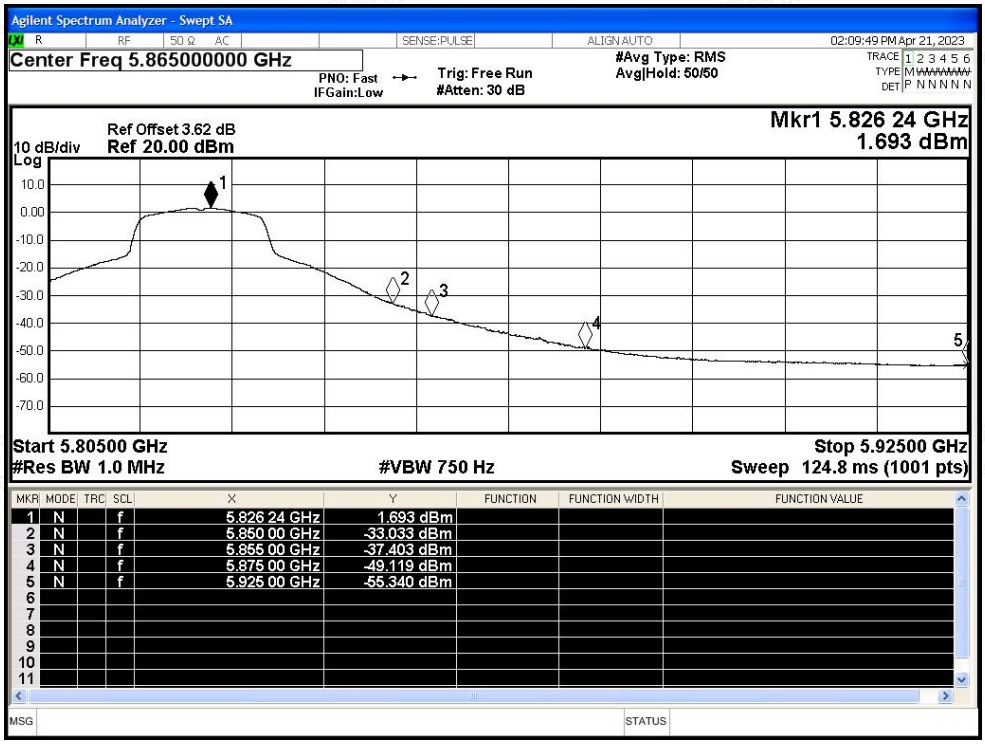
Restrict Band NVNT a 5745MHz Ant1 Average



Restrict Band NVNT a 5825MHz Ant1 Peak



Restrict Band NVNT a 5825MHz Ant1 Average

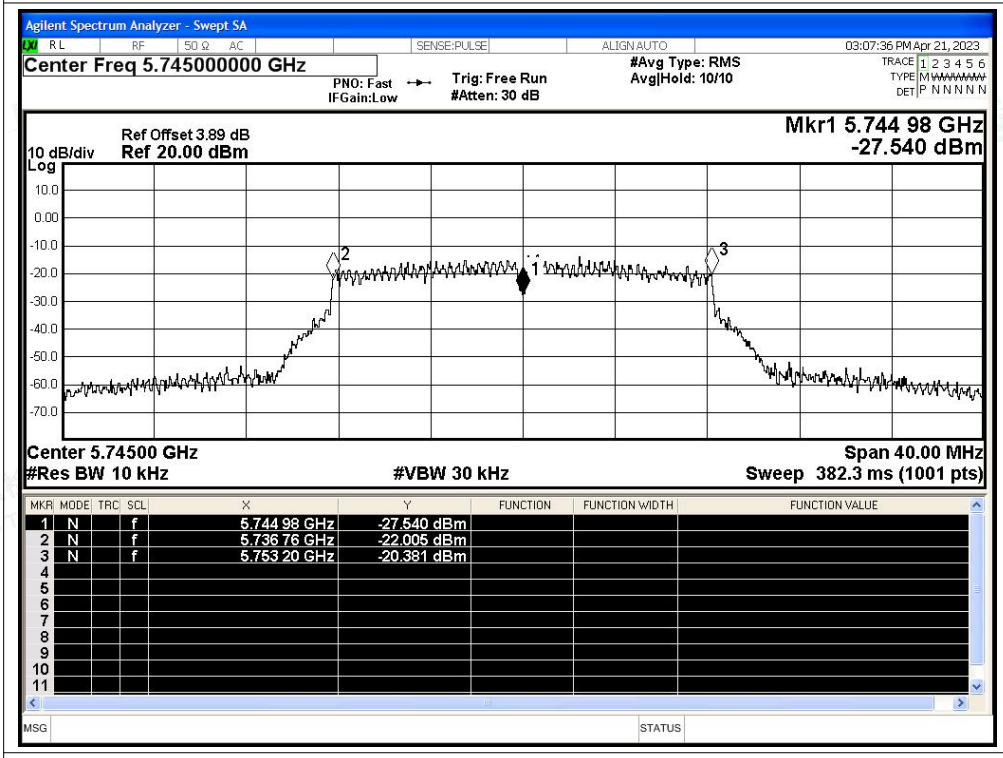


A.5 Frequency Stability

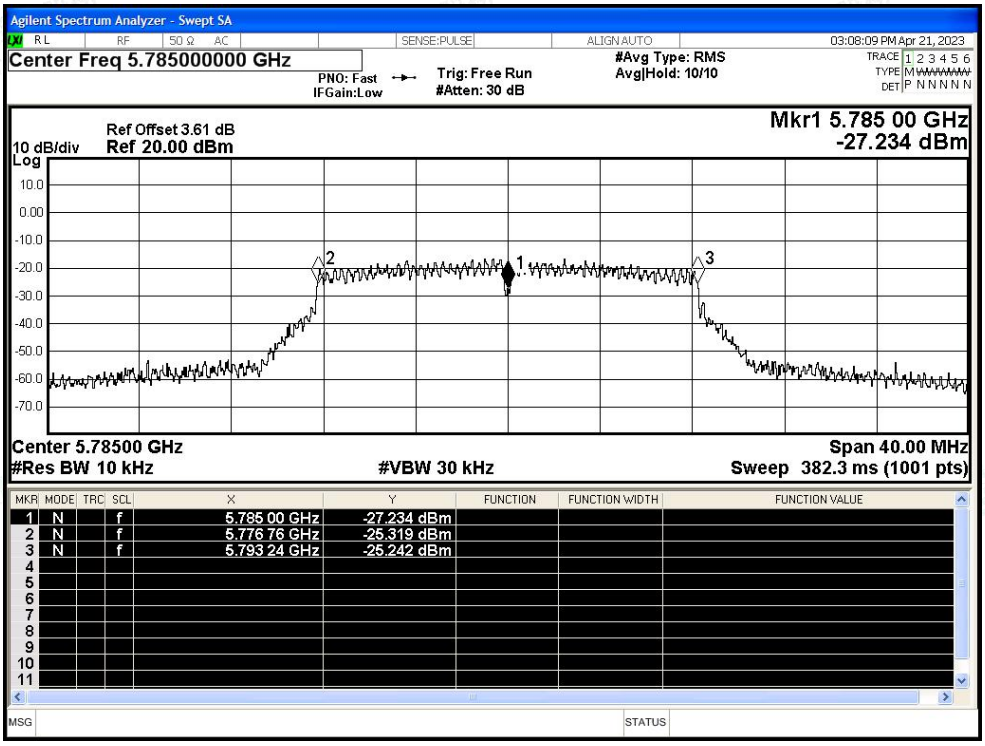
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant0	5744.98	-20000	-3.48	25	Pass
NVNT	a	5785	Ant0	5785	0	0	25	Pass
NVNT	a	5825	Ant0	5825	0	0	25	Pass

Test Graphs

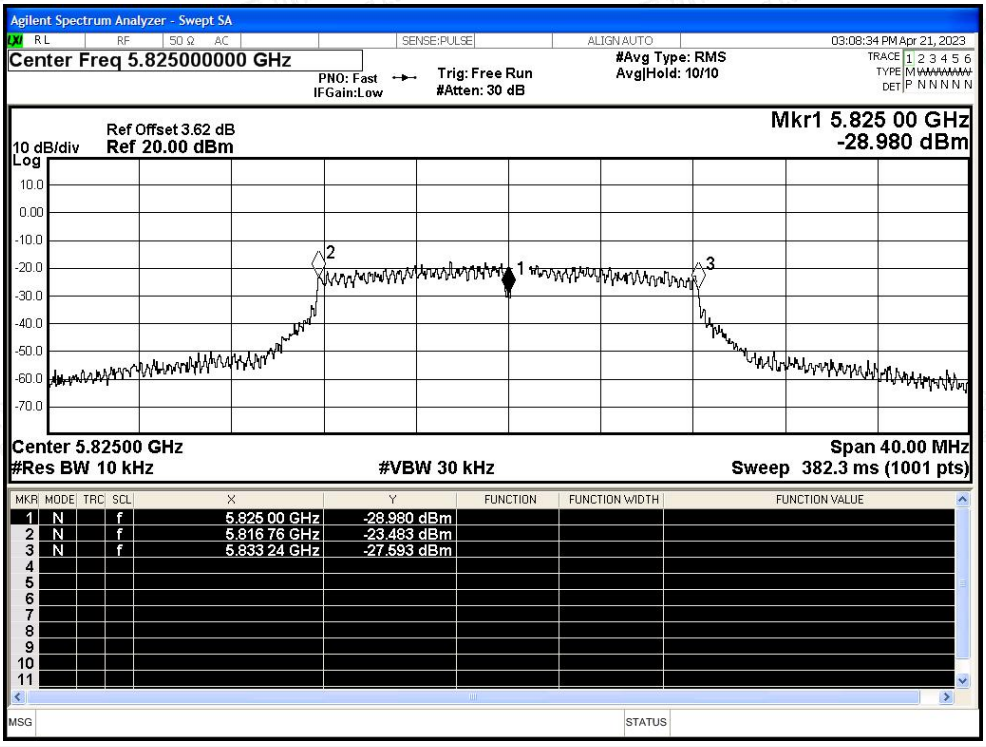
Freq. Stability NVNT a 5745MHz Ant1



Freq. Stability NVNT a 5785MHz Ant1


Agilent Spectrum Analyzer - Swept SA
Center Freq 5.785000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
03:08:09 PM Apr 21, 2023
Ref Offset 3.61 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 5.785 00 GHz
-27.234 dBm
Center 5.78500 GHz
#Res BW 10 kHz
#VBW 30 kHz
Span 40.00 MHz
Sweep 382.3 ms (1001 pts)
1 N f 5.785 00 GHz -27.234 dBm
2 N f 5.776 76 GHz -25.319 dBm
3 N f 5.793 24 GHz -25.242 dBm

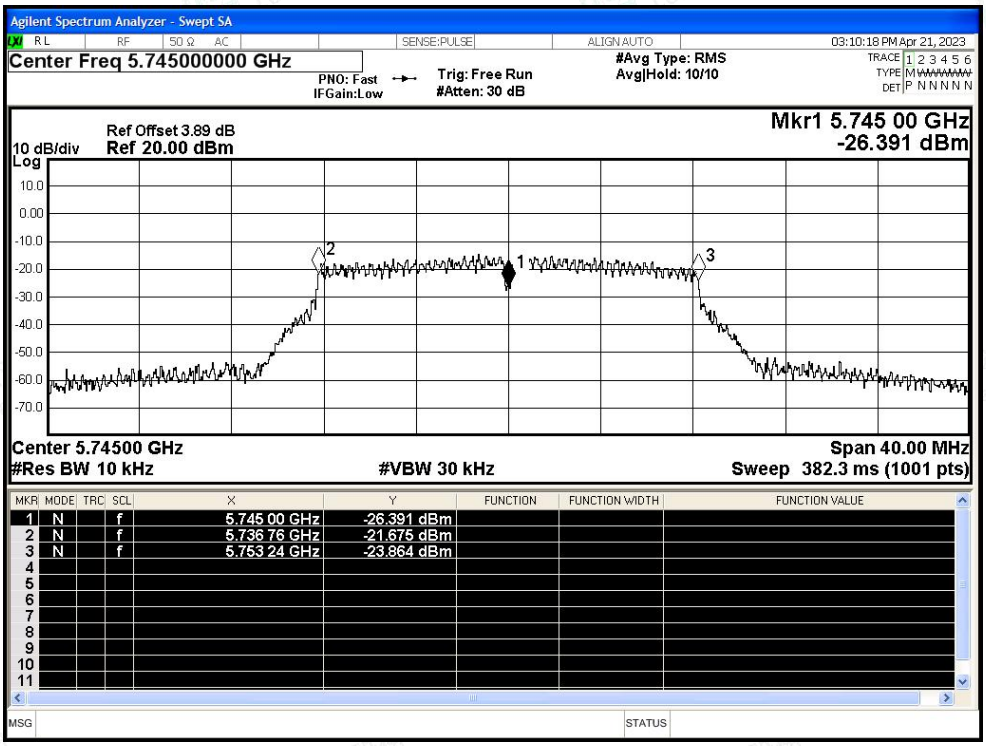
Freq. Stability NVNT a 5825MHz Ant1



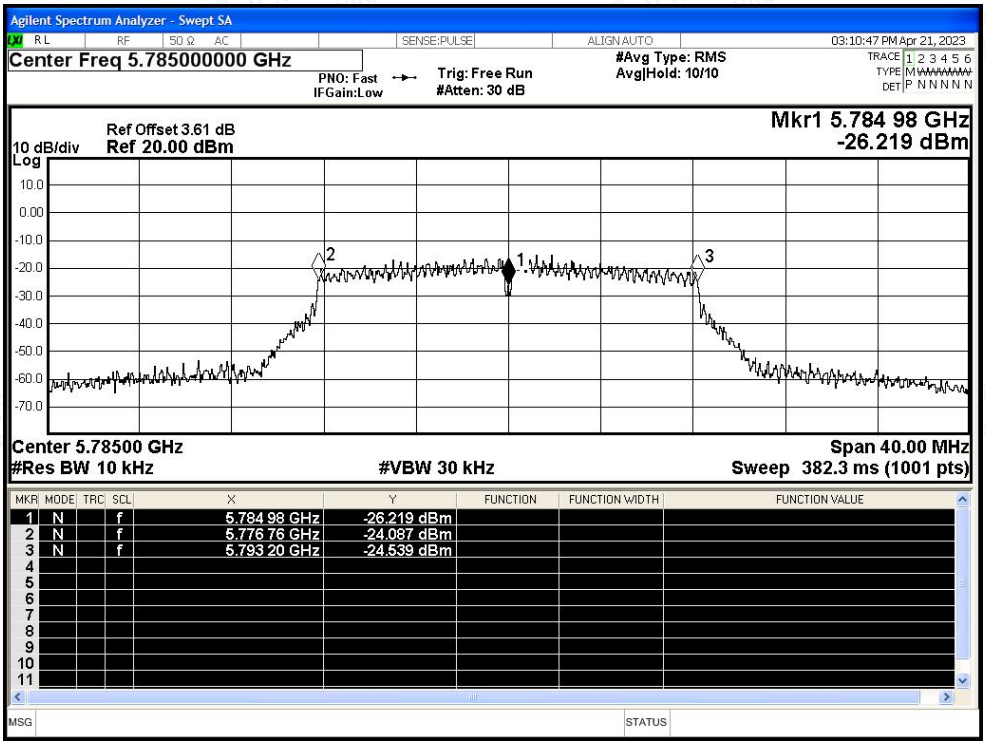
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5745	0	0	25	Pass
NVNT	a	5785	Ant1	5784.98	-20000	-3.46	25	Pass
NVNT	a	5825	Ant1	5824.98	-20000	-3.43	25	Pass

Test Graphs

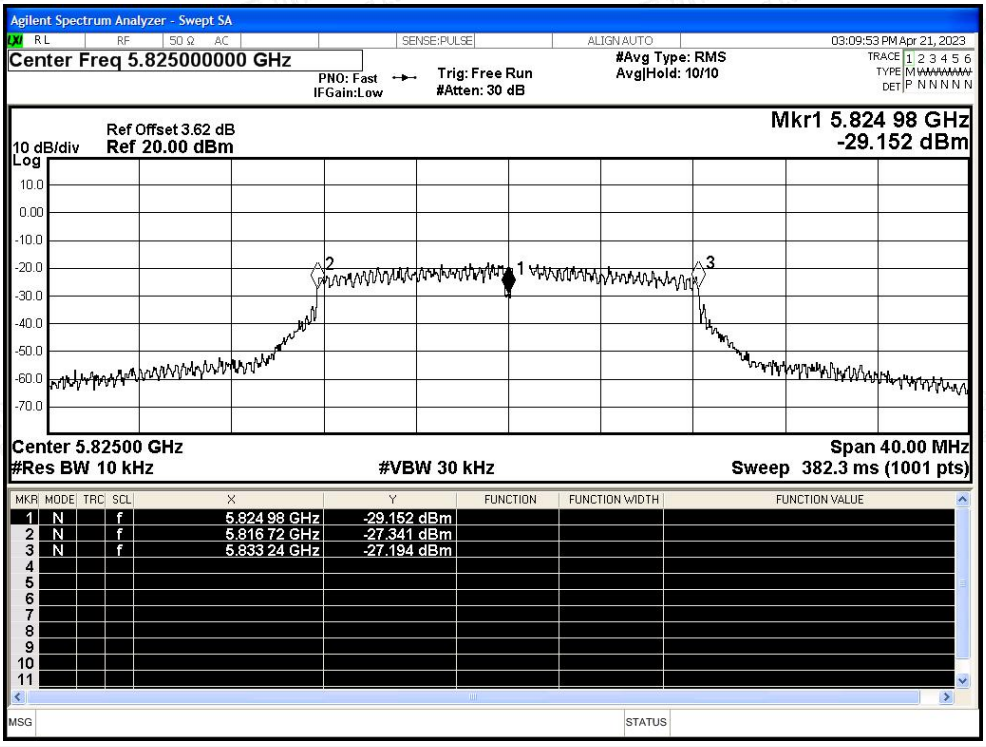
Freq. Stability NVNT a 5745MHz Ant1



Freq. Stability NVNT a 5785MHz Ant1



Freq. Stability NVNT a 5825MHz Ant1

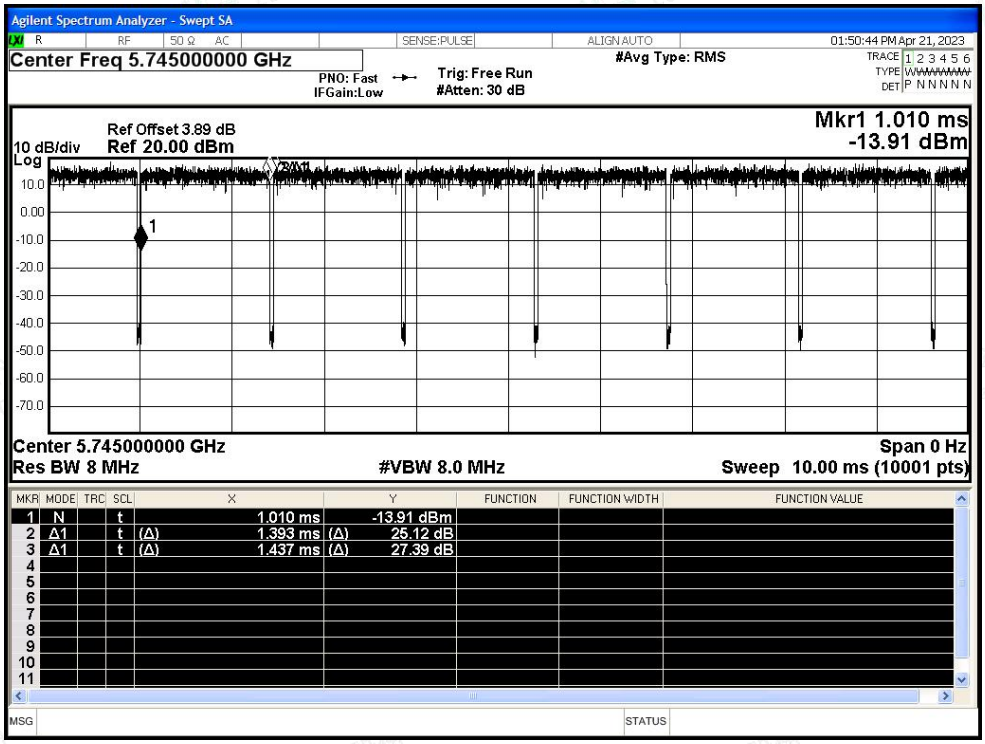


A.6 Duty Cycle

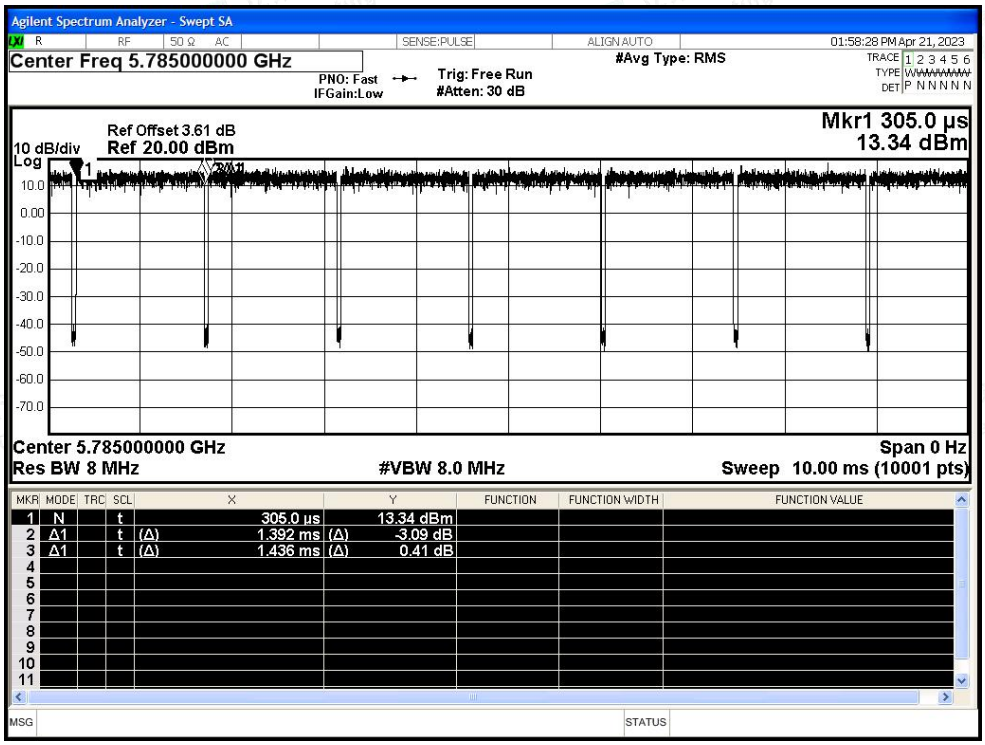
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant0	96.94	0.13	0.72
NVNT	a	5785	Ant0	96.94	0.13	0.72
NVNT	a	5825	Ant0	96.94	0.13	0.72

Test Graphs

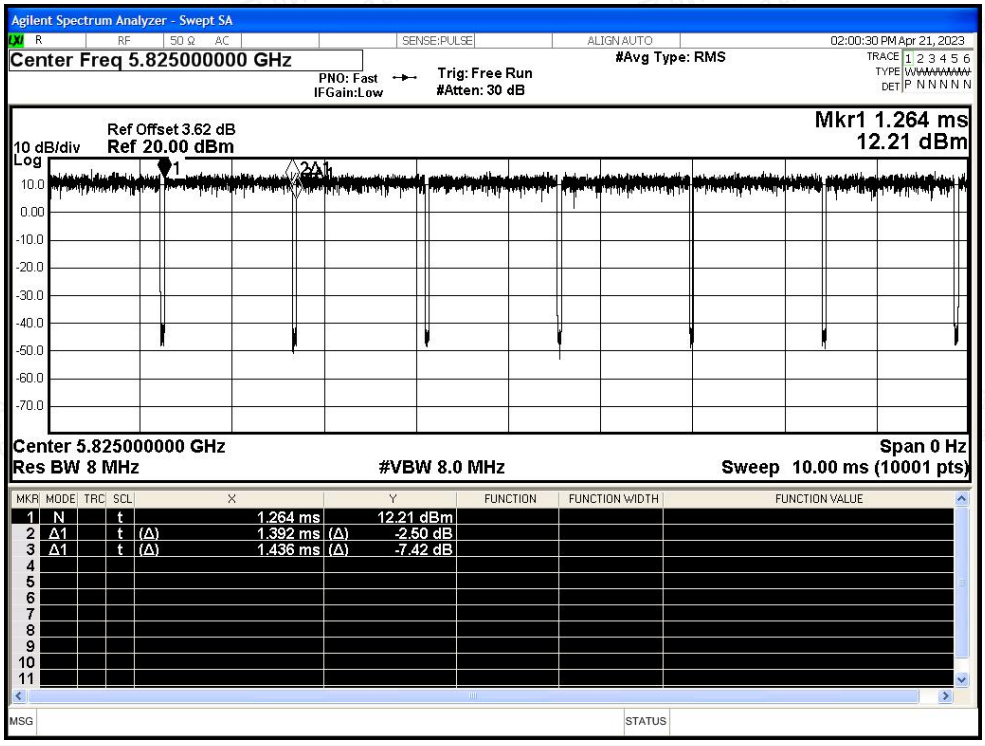
Duty Cycle NVNT a 5745MHz Ant0



Duty Cycle NVNT a 5785MHz Ant0



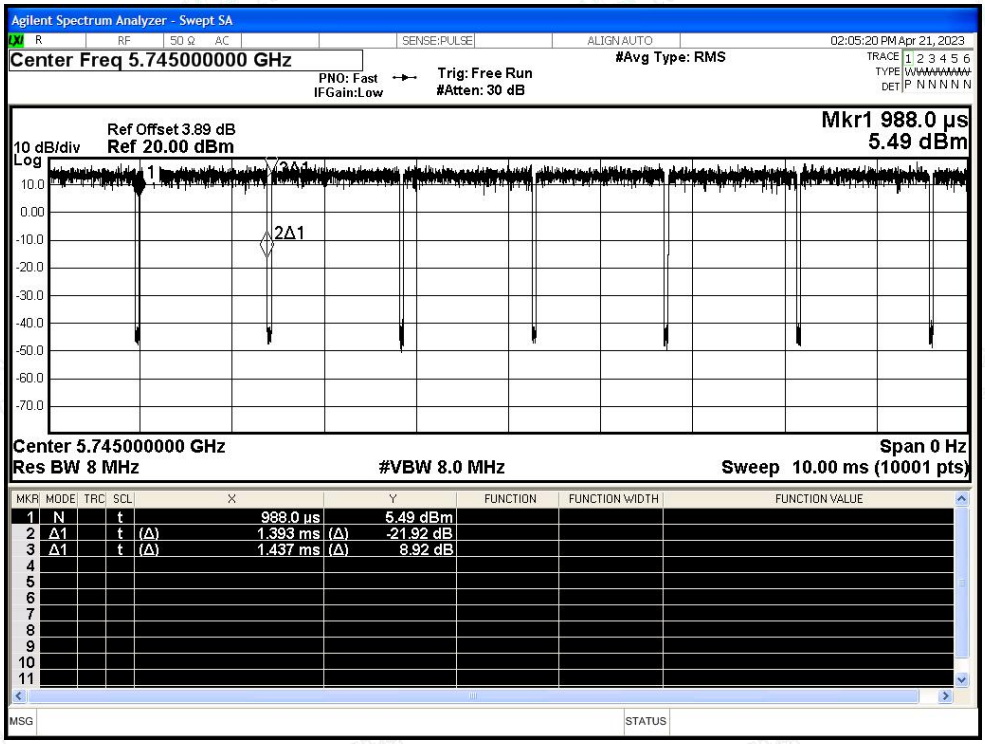
Duty Cycle NVNT a 5825MHz Ant0



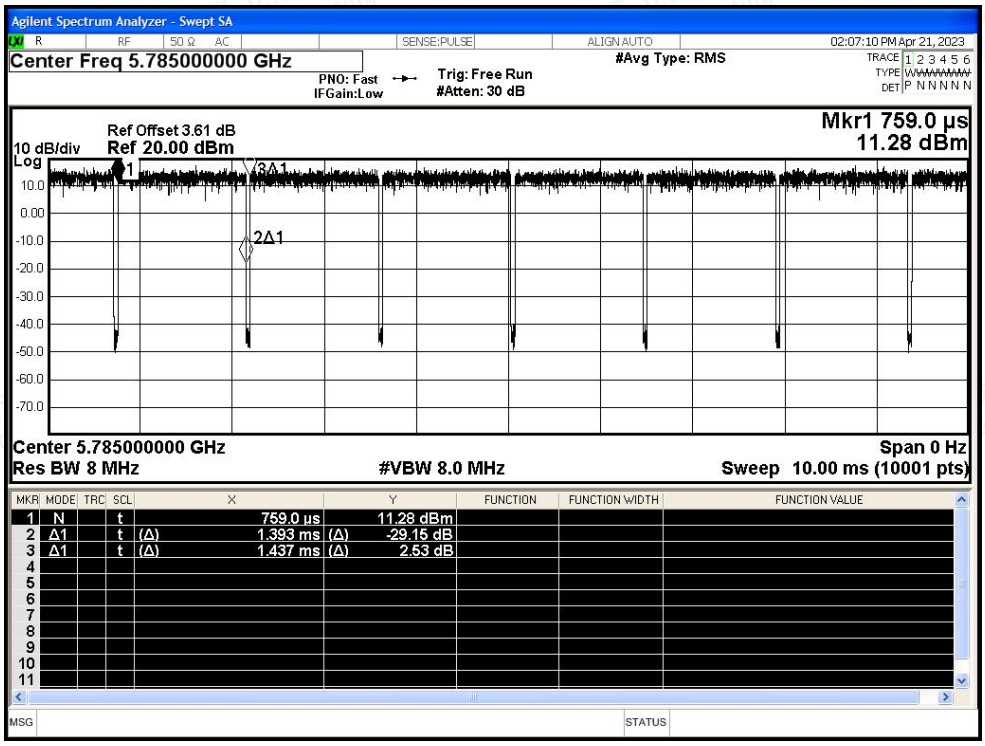
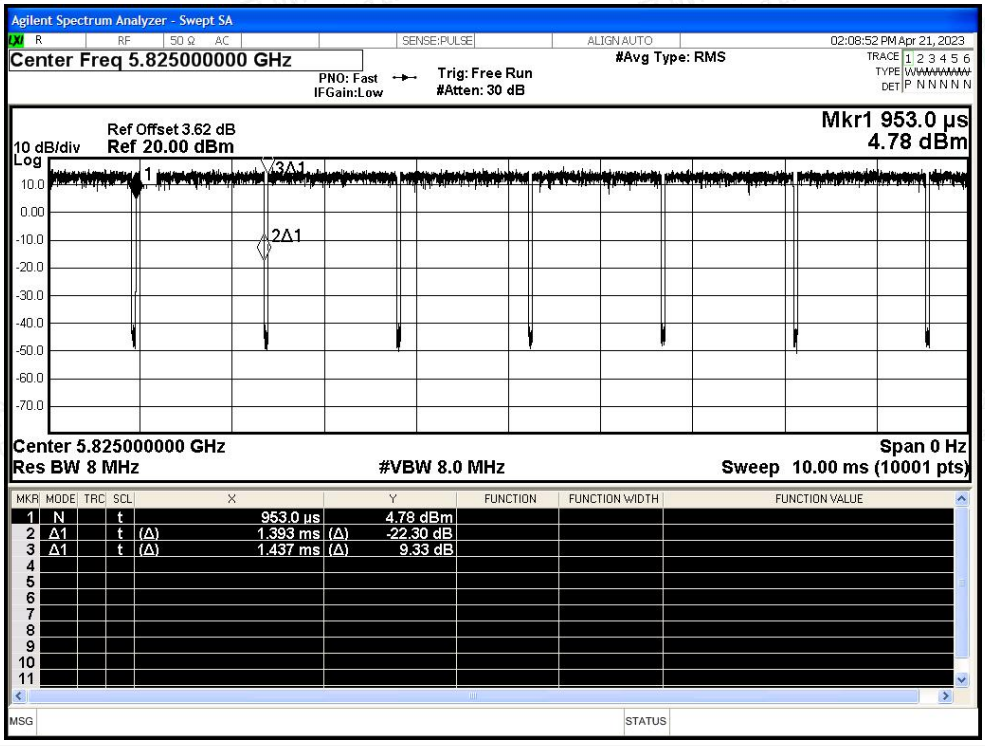
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	96.94	0.13	0.72
NVNT	a	5785	Ant1	96.94	0.13	0.72
NVNT	a	5825	Ant1	96.94	0.13	0.72

Test Graphs

Duty Cycle NVNT a 5745MHz Ant1



Duty Cycle NVNT a 5785MHz Ant1



Duty Cycle NVNT a 5825MHz Ant1