



Appendix D

RF Test Data for 5.8GWIFI (Conducted Measurement)

Product Name: Wi-Fi Smart Fingerprint Lock

Test Model: WFP-F

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Li Huan



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D.1 -6dB Bandwidth

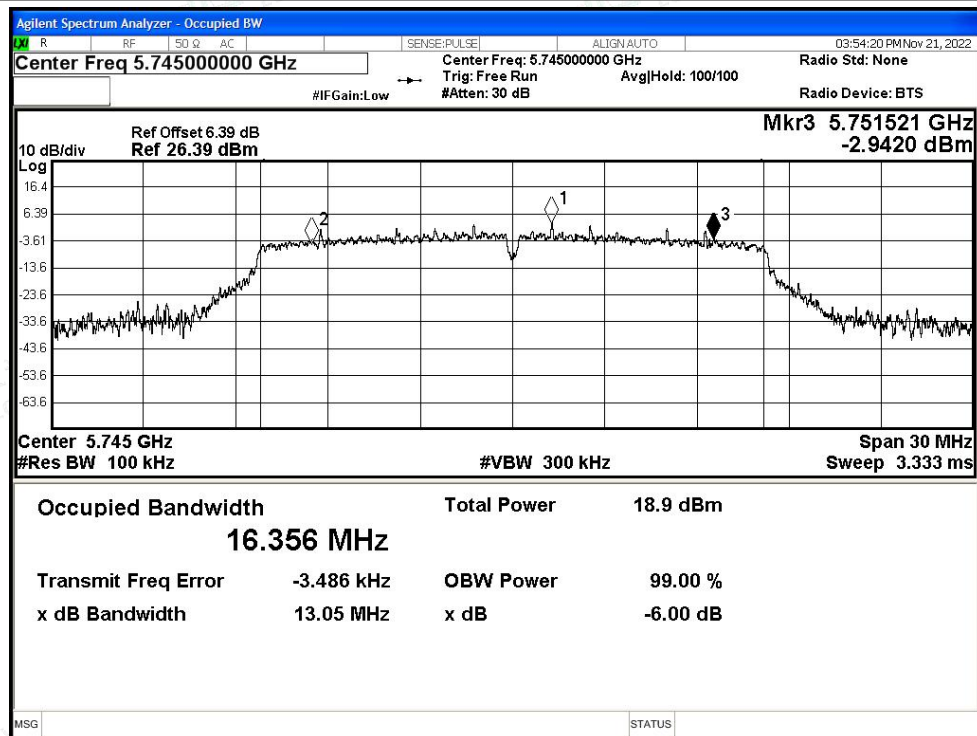
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	13.049	≥ 0.5	Pass
NVNT	a	5785	Ant1	13.819	≥ 0.5	Pass
NVNT	a	5825	Ant1	12.968	≥ 0.5	Pass
NVNT	n20	5745	Ant1	15.055	≥ 0.5	Pass
NVNT	n20	5785	Ant1	13.563	≥ 0.5	Pass
NVNT	n20	5825	Ant1	16.53	≥ 0.5	Pass



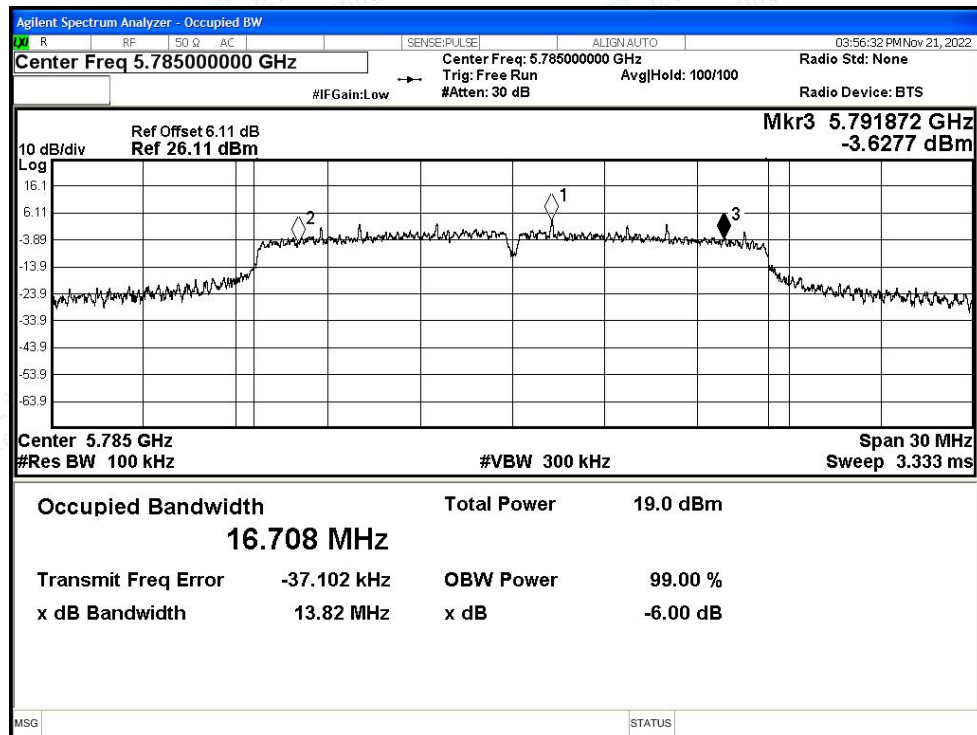


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1

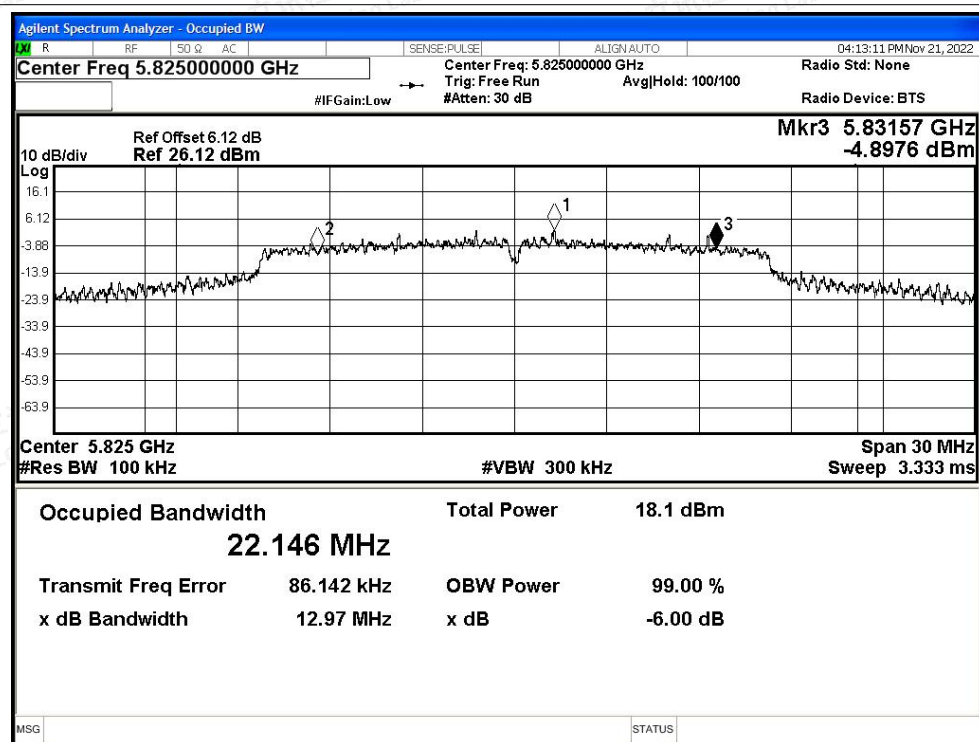


-6dB Bandwidth NVNT a 5785MHz Ant1

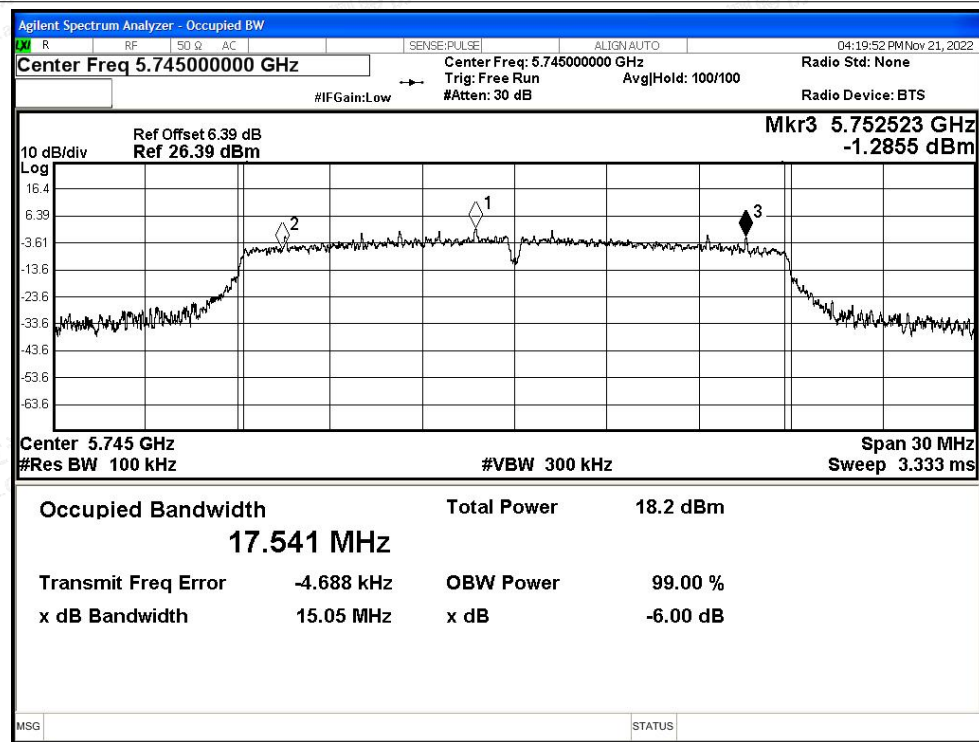




-6dB Bandwidth NVNT a 5825MHz Ant1

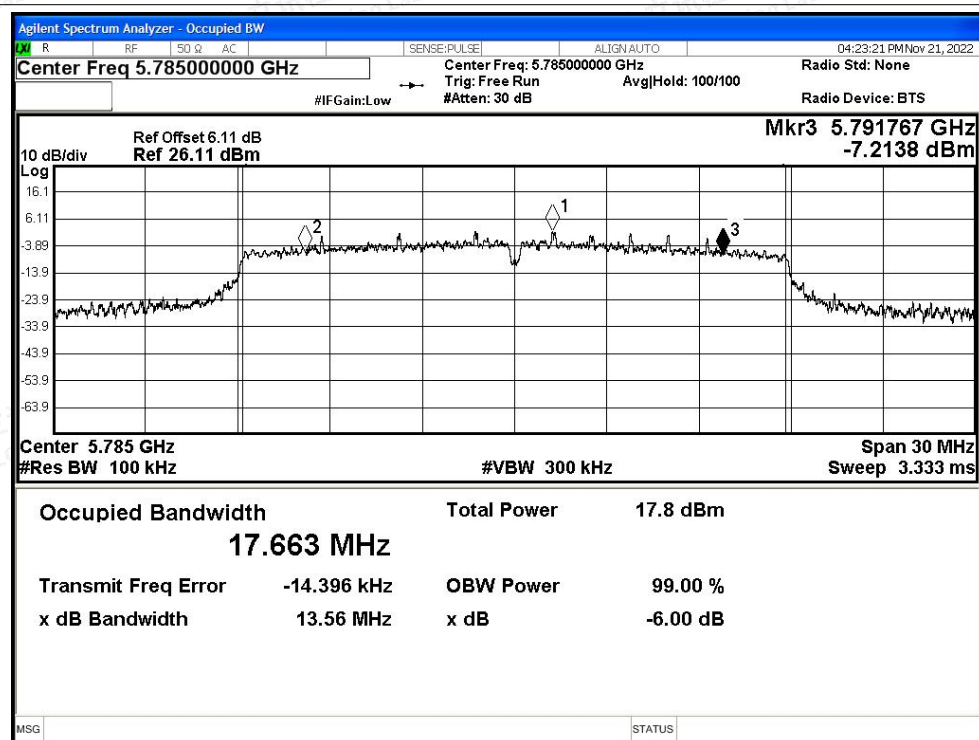


-6dB Bandwidth NVNT n20 5745MHz Ant1

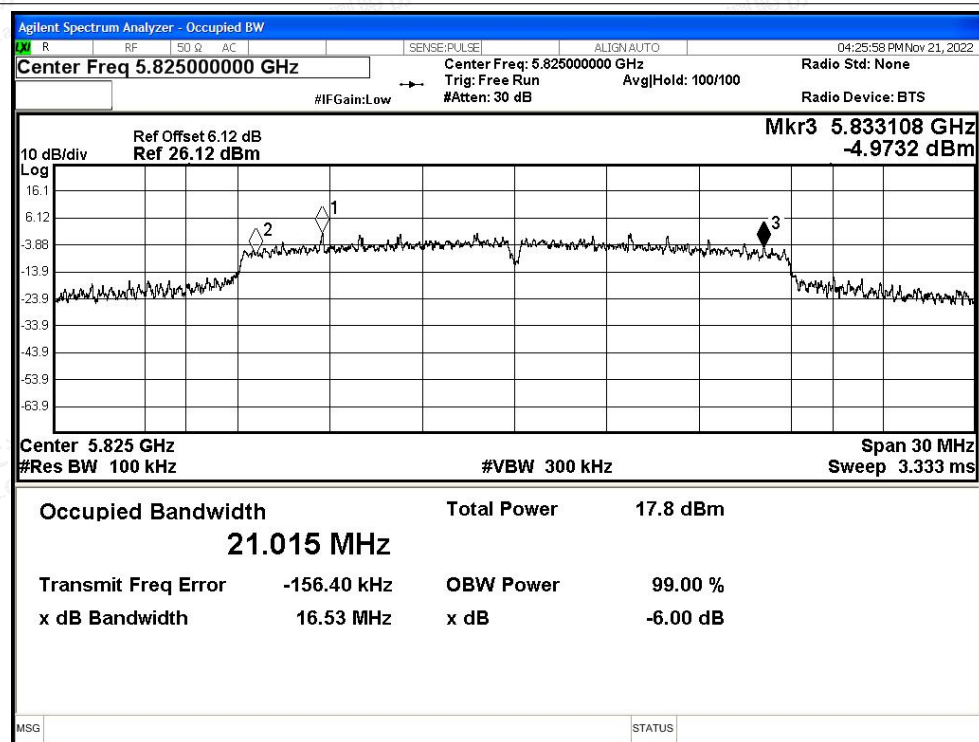




-6dB Bandwidth NVNT n20 5785MHz Ant1



-6dB Bandwidth NVNT n20 5825MHz Ant1





D.2 Occupied Channel Bandwidth

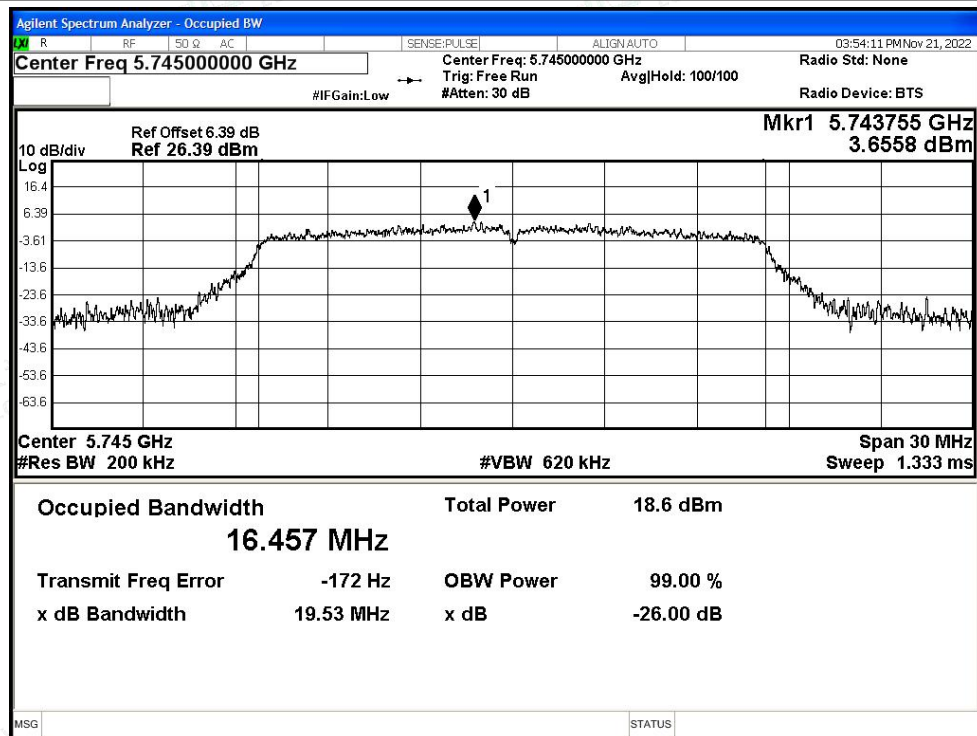
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.457
NVNT	a	5785	Ant1	17.063
NVNT	a	5825	Ant1	22.502
NVNT	n20	5745	Ant1	17.607
NVNT	n20	5785	Ant1	17.756
NVNT	n20	5825	Ant1	21.325



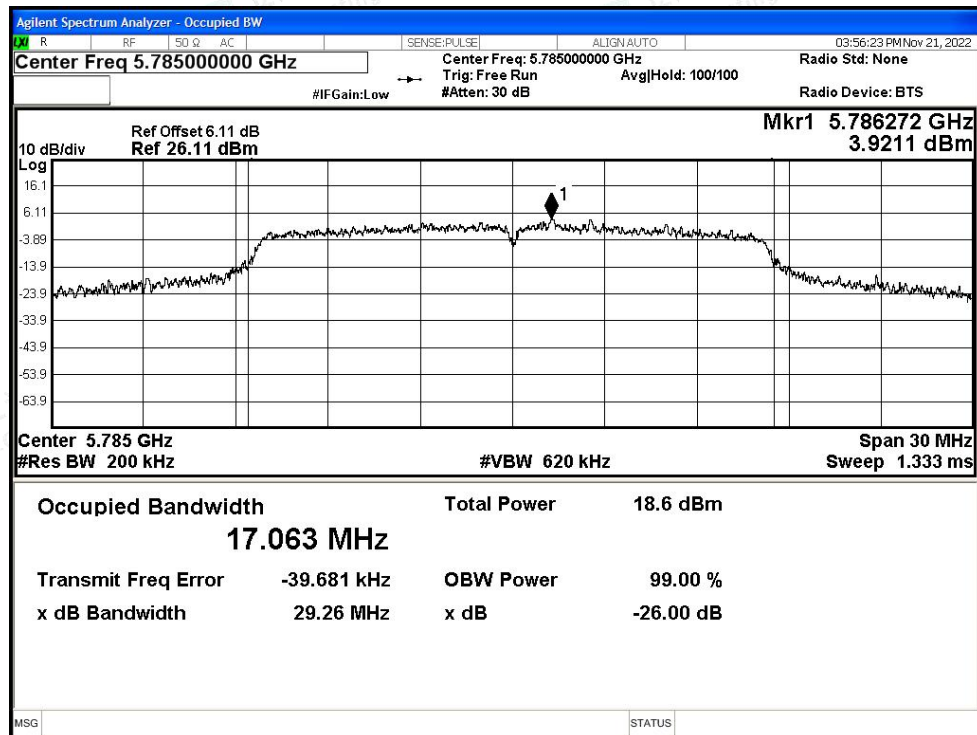


Test Graphs

OBW NVNT a 5745MHz Ant1

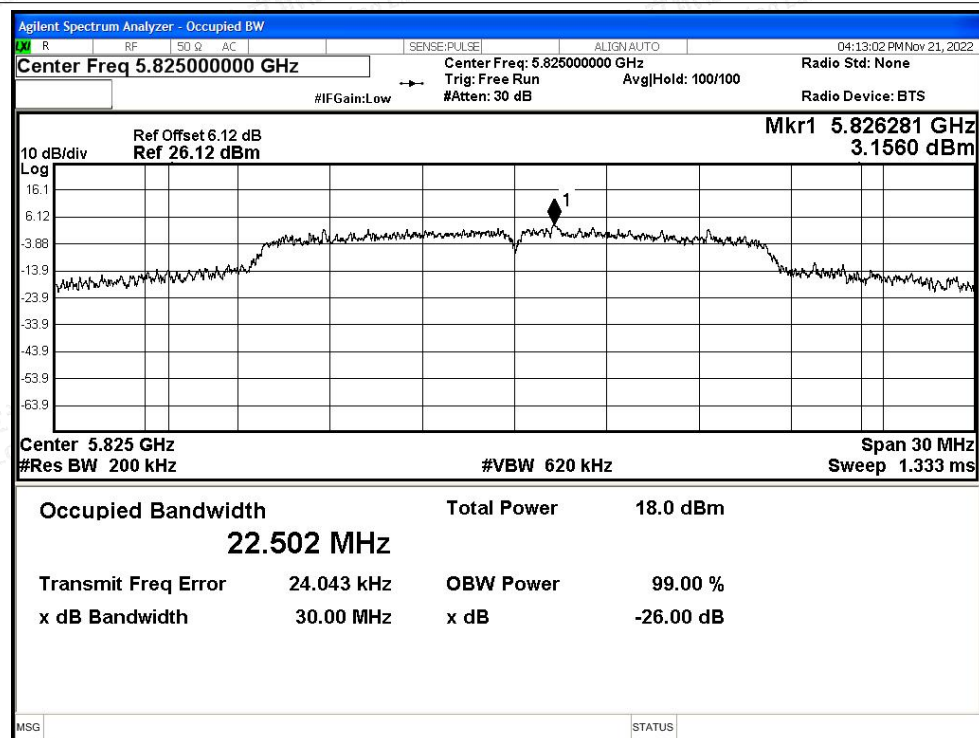


OBW NVNT a 5785MHz Ant1

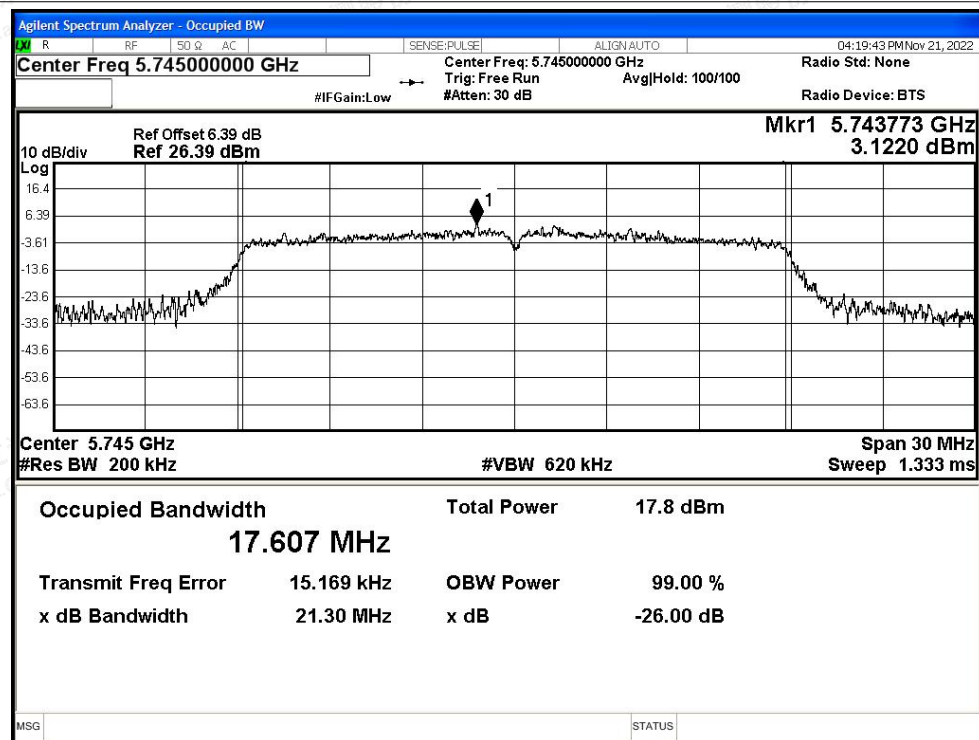




OBW NVNT a 5825MHz Ant1



OBW NVNT n20 5745MHz Ant1

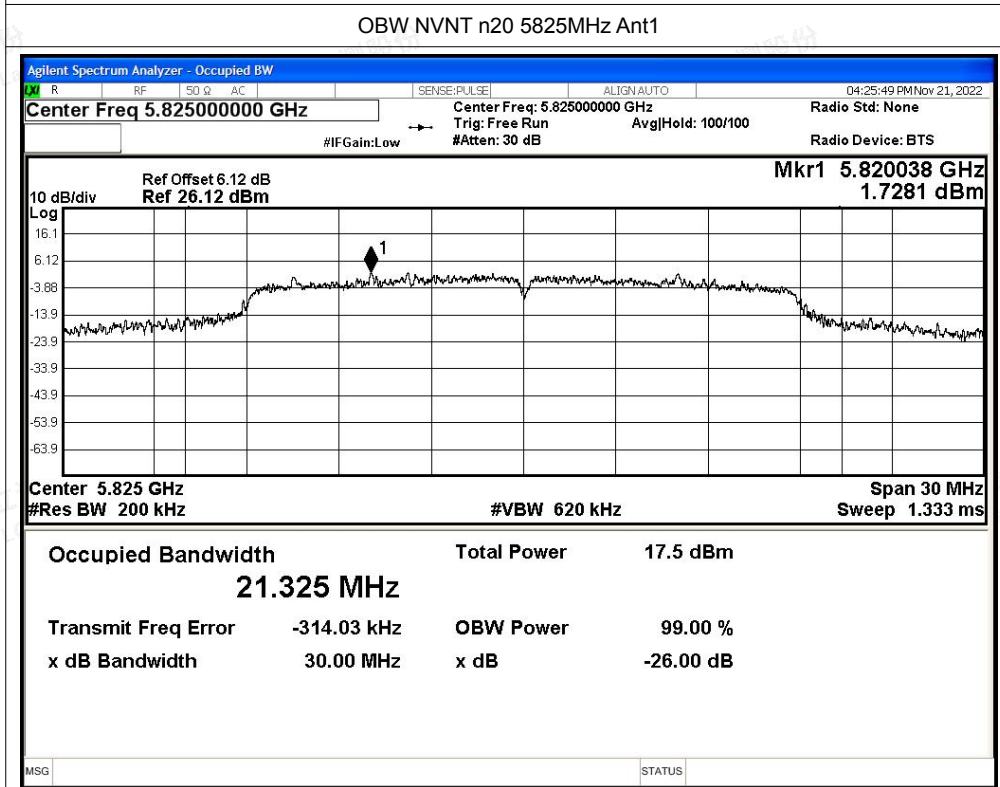
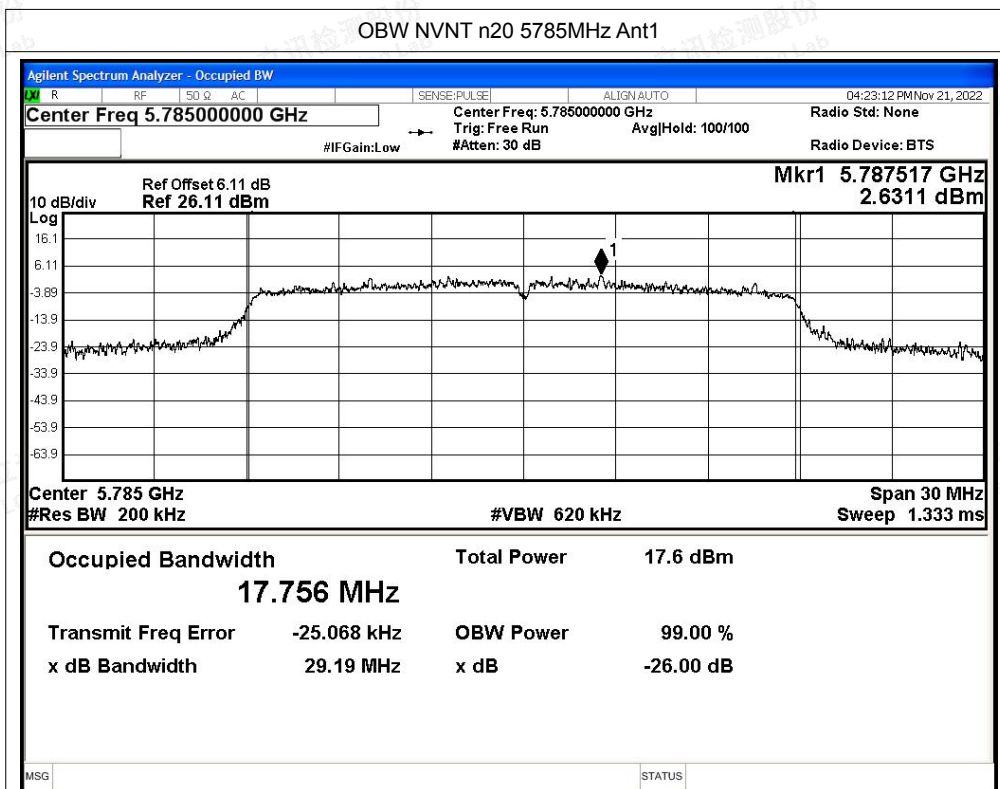


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D.3 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	12.86	0.13	12.99	30	Pass
NVNT	a	5785	Ant1	11.38	0.13	11.51	30	Pass
NVNT	a	5825	Ant1	11.72	0.14	11.86	30	Pass
NVNT	n20	5745	Ant1	12.15	0.15	12.30	30	Pass
NVNT	n20	5785	Ant1	11.73	0.15	11.88	30	Pass
NVNT	n20	5825	Ant1	11.8	0.15	11.95	30	Pass

EIRP

Test Mode	Antenna	Frequency [MHz]	Maximum conducted output power [dBm]	Antenna Gain	Report EIRP Power(dBm)	Limit [dBm]	Verdict
a	Ant0	5745	12.99	3.78	16.77	---	PASS
		5785	11.51	3.78	15.29	---	PASS
		5825	11.86	3.78	15.64	---	PASS
n20	Ant0	5745	12.3	3.78	16.08	---	PASS
		5785	11.88	3.78	15.66	---	PASS
		5825	11.95	3.78	15.73	---	PASS





D.4 Maximum Power Spectral Density Level

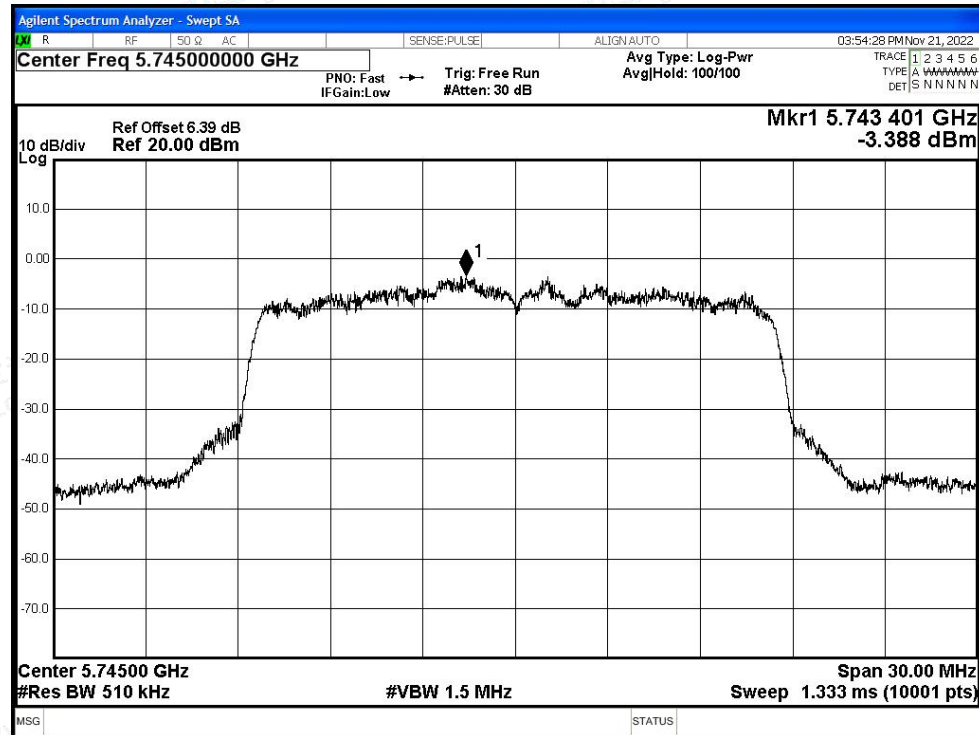
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	-3.39	0.13	-3.26	30	Pass
NVNT	a	5785	Ant1	-2.27	0.13	-2.14	30	Pass
NVNT	a	5825	Ant1	-3.16	0.14	-3.02	30	Pass
NVNT	n20	5745	Ant1	-3.15	0.15	-3	30	Pass
NVNT	n20	5785	Ant1	-3.35	0.15	-3.2	30	Pass
NVNT	n20	5825	Ant1	-3.36	0.15	-3.21	30	Pass



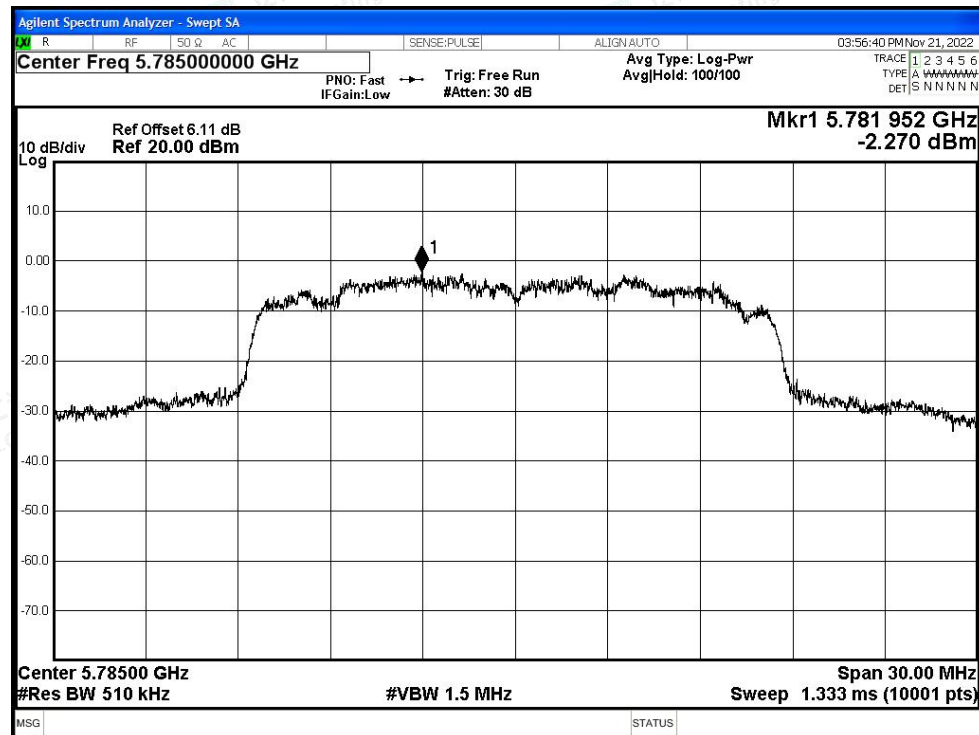


Test Graphs

PSD NVNT a 5745MHz Ant1

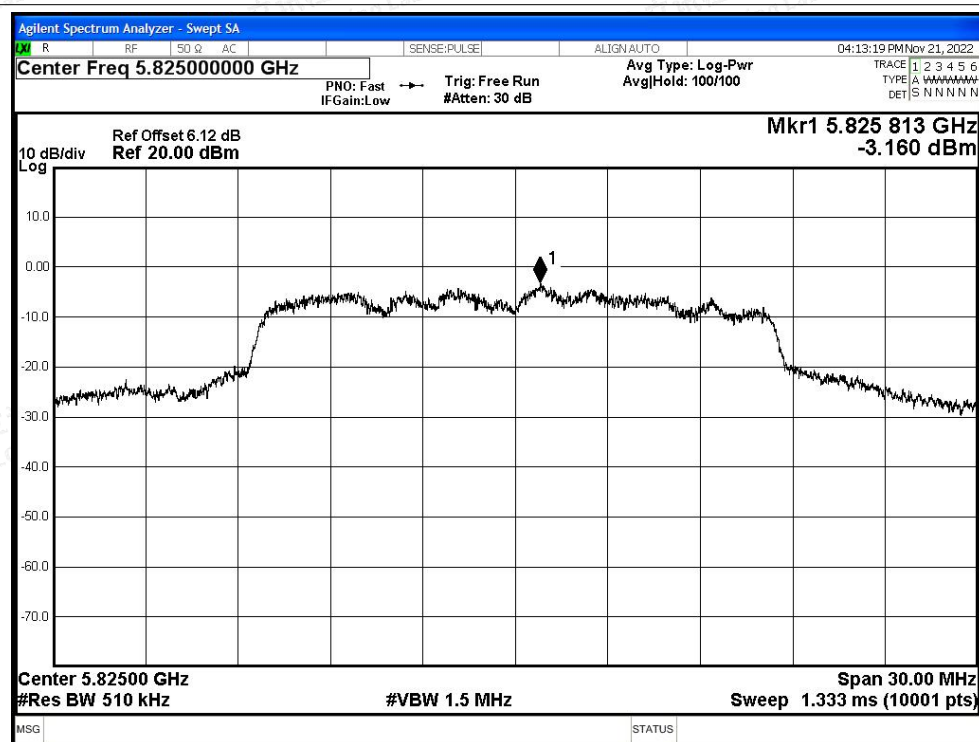


PSD NVNT a 5785MHz Ant1

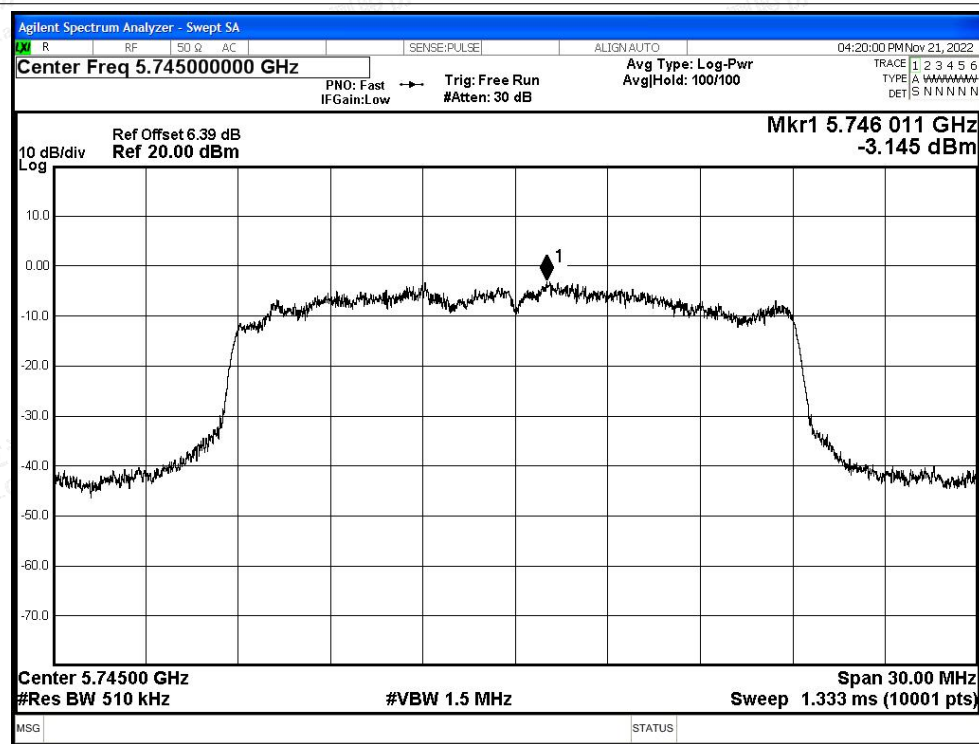


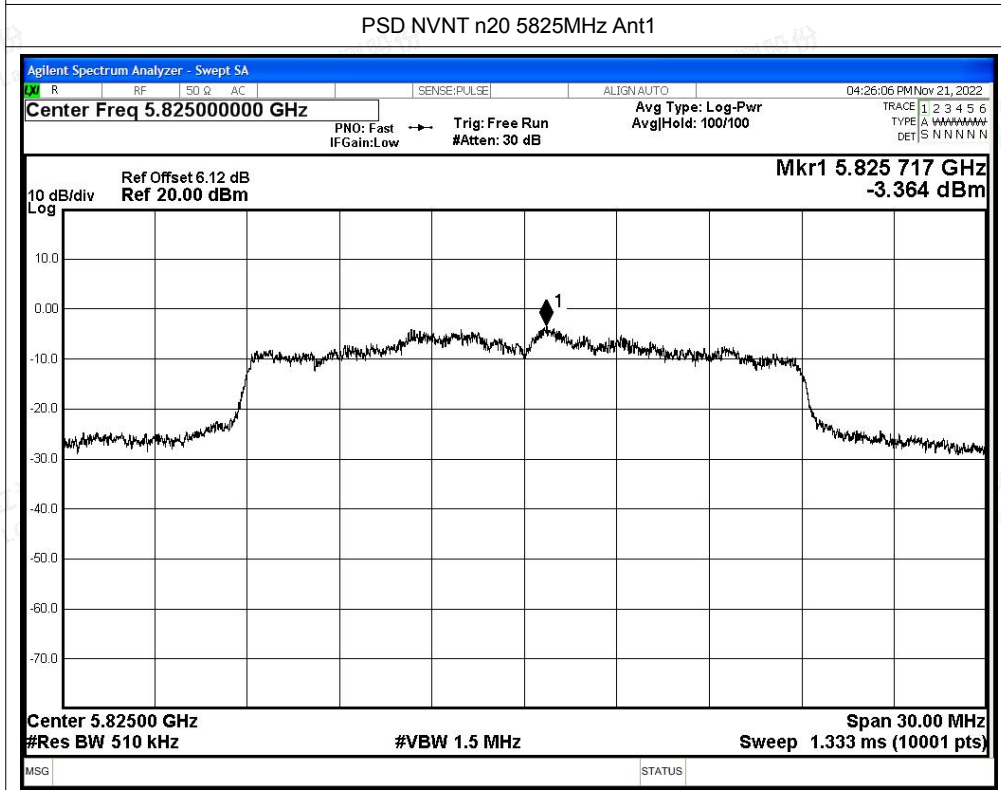
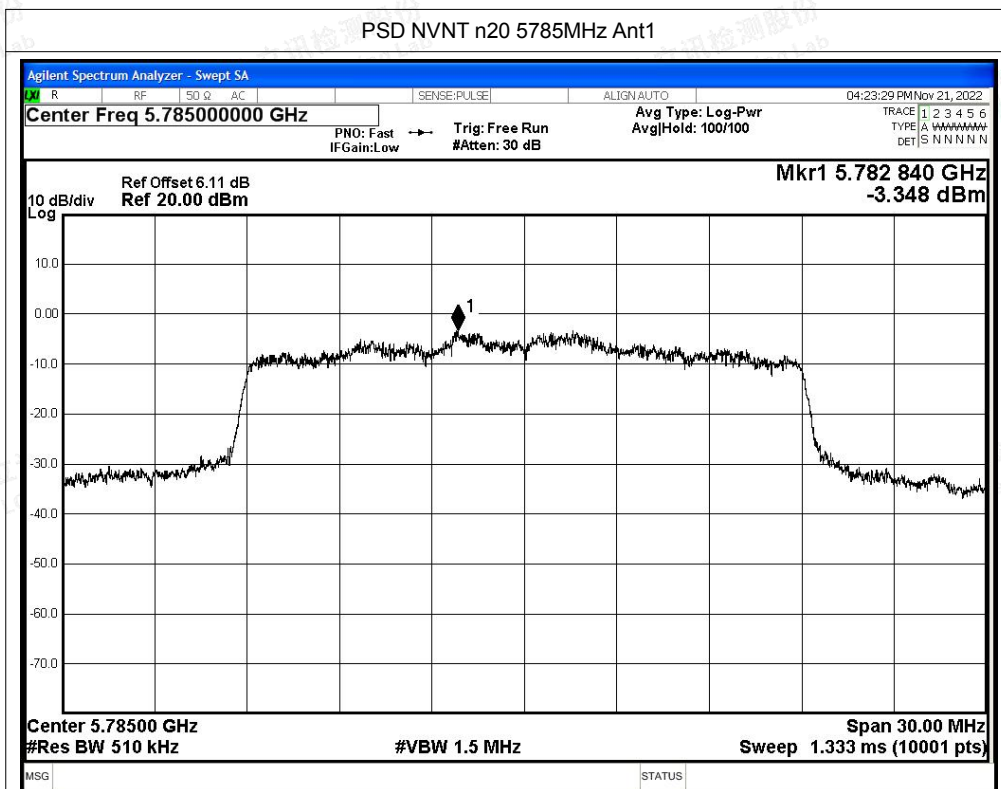


PSD NVNT a 5825MHz Ant1



PSD NVNT n20 5745MHz Ant1





Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

2.The Duty Cycle Factor and RBW Factor is compensated in the graph.





D.5 Restrict Band

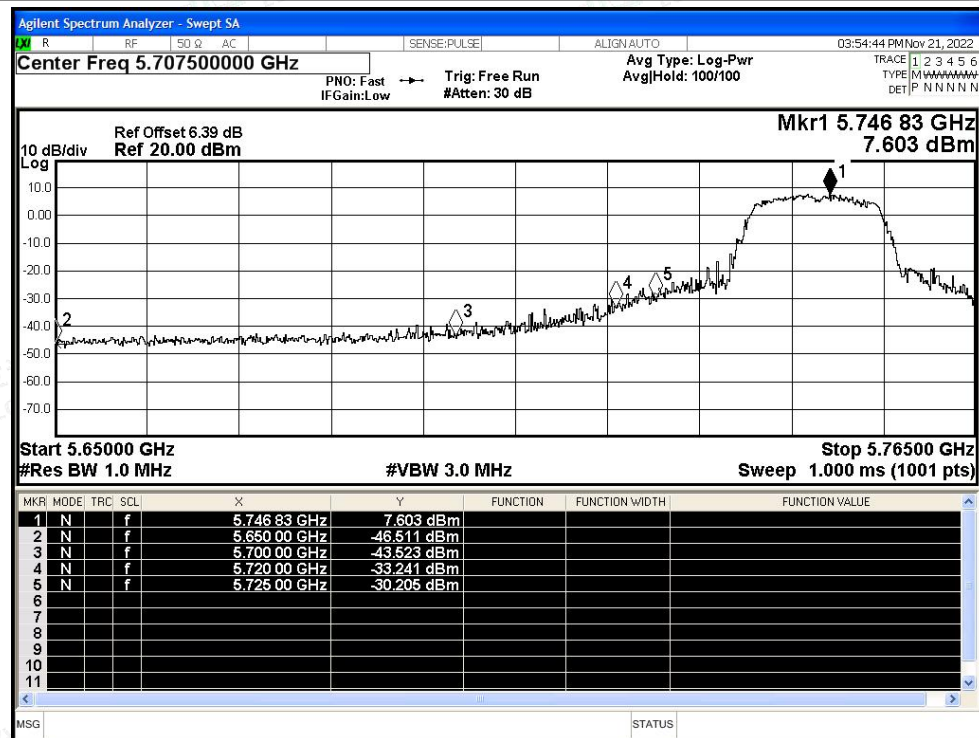
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	5650	-46.51	3.78	-42.73	Peak	-27	Pass
NVNT	a	5745	Ant1	5650	-55.02	3.78	-51.24	Average	-27	Pass
NVNT	a	5745	Ant1	5700	-43.52	3.78	-39.74	Peak	10	Pass
NVNT	a	5745	Ant1	5700	-53.15	3.78	-49.37	Average	10	Pass
NVNT	a	5745	Ant1	5720	-33.24	3.78	-29.46	Peak	15.6	Pass
NVNT	a	5745	Ant1	5720	-48.31	3.78	-44.53	Average	15.6	Pass
NVNT	a	5745	Ant1	5725	-30.21	3.78	-26.43	Peak	27	Pass
NVNT	a	5745	Ant1	5725	-45.87	3.78	-42.09	Average	27	Pass
NVNT	a	5825	Ant1	5850	-21.14	3.78	-17.36	Peak	27	Pass
NVNT	a	5825	Ant1	5850	-34.33	3.78	-30.55	Average	27	Pass
NVNT	a	5825	Ant1	5855	-25.29	3.78	-21.51	Peak	15.6	Pass
NVNT	a	5825	Ant1	5855	-38.52	3.78	-34.74	Average	15.6	Pass
NVNT	a	5825	Ant1	5875	-36.63	3.78	-32.85	Peak	10	Pass
NVNT	a	5825	Ant1	5875	-49.23	3.78	-45.45	Average	10	Pass
NVNT	a	5825	Ant1	5925	-47.18	3.78	-43.4	Peak	-27	Pass
NVNT	a	5825	Ant1	5925	-55.55	3.78	-51.77	Average	-27	Pass
NVNT	n20	5745	Ant1	5650	-43.27	3.78	-39.49	Peak	-27	Pass
NVNT	n20	5745	Ant1	5650	-54.76	3.78	-50.98	Average	-27	Pass
NVNT	n20	5745	Ant1	5700	-39.82	3.78	-36.04	Peak	10	Pass
NVNT	n20	5745	Ant1	5700	-51.55	3.78	-47.77	Average	10	Pass
NVNT	n20	5745	Ant1	5720	-32.67	3.78	-28.89	Peak	15.6	Pass
NVNT	n20	5745	Ant1	5720	-45.19	3.78	-41.41	Average	15.6	Pass
NVNT	n20	5745	Ant1	5725	-26.23	3.78	-22.45	Peak	27	Pass
NVNT	n20	5745	Ant1	5725	-40.82	3.78	-37.04	Average	27	Pass
NVNT	n20	5825	Ant1	5850	-23.42	3.78	-19.64	Peak	27	Pass
NVNT	n20	5825	Ant1	5850	-35.32	3.78	-31.54	Average	27	Pass
NVNT	n20	5825	Ant1	5855	-29.1	3.78	-25.32	Peak	15.6	Pass
NVNT	n20	5825	Ant1	5855	-39.23	3.78	-35.45	Average	15.6	Pass
NVNT	n20	5825	Ant1	5875	-38.99	3.78	-35.21	Peak	10	Pass
NVNT	n20	5825	Ant1	5875	-50.26	3.78	-46.48	Average	10	Pass
NVNT	n20	5825	Ant1	5925	-47.39	3.78	-43.61	Peak	-27	Pass
NVNT	n20	5825	Ant1	5925	-55.83	3.78	-52.05	Average	-27	Pass



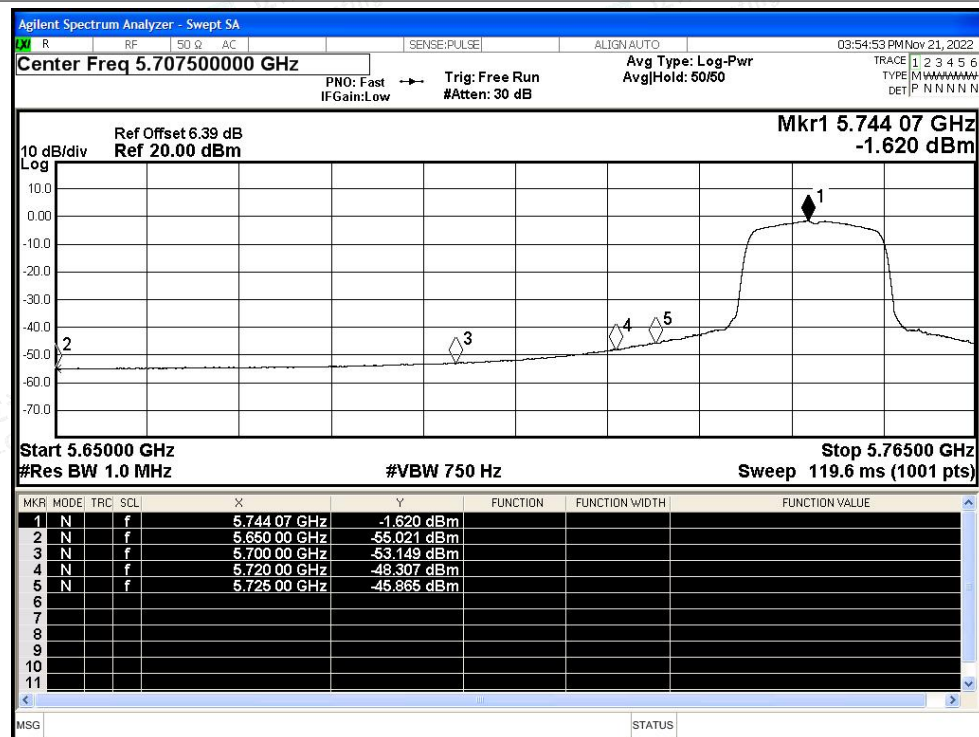


Test Graphs

Restrict Band NVNT a 5745MHz Ant1 Peak

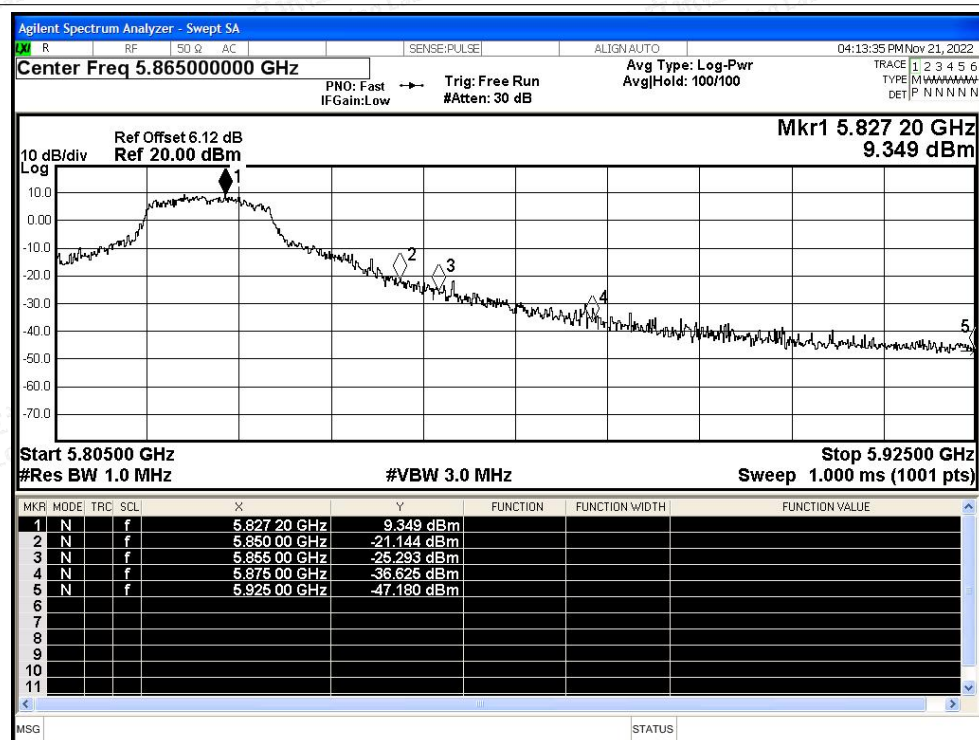


Restrict Band NVNT a 5745MHz Ant1 Average

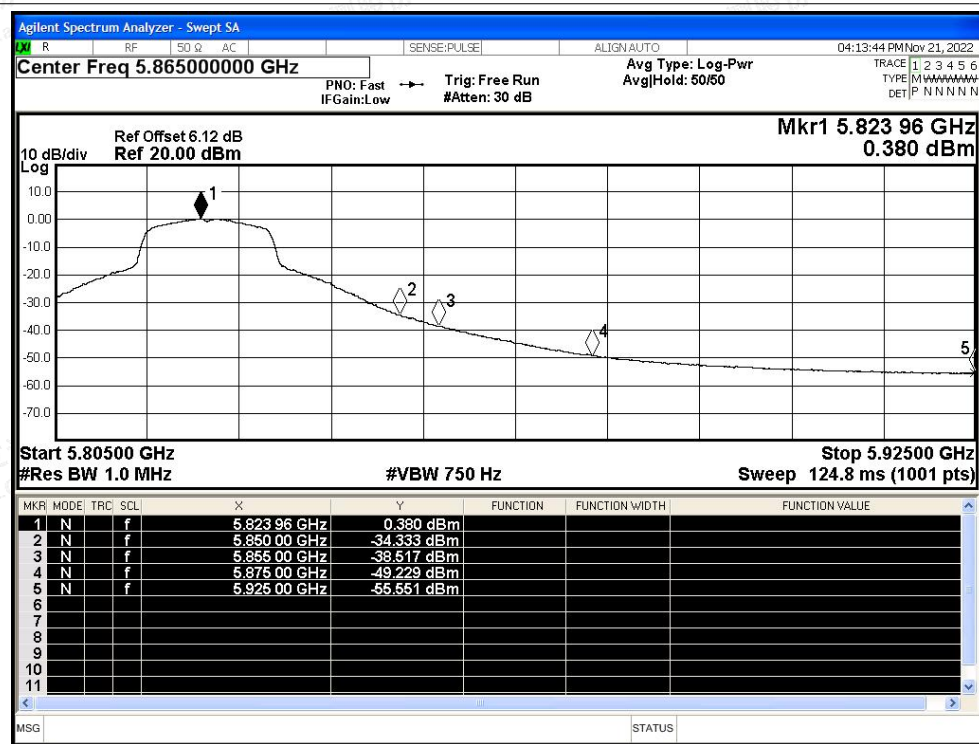




Restrict Band NVNT a 5825MHz Ant1 Peak



Restrict Band NVNT a 5825MHz Ant1 Average



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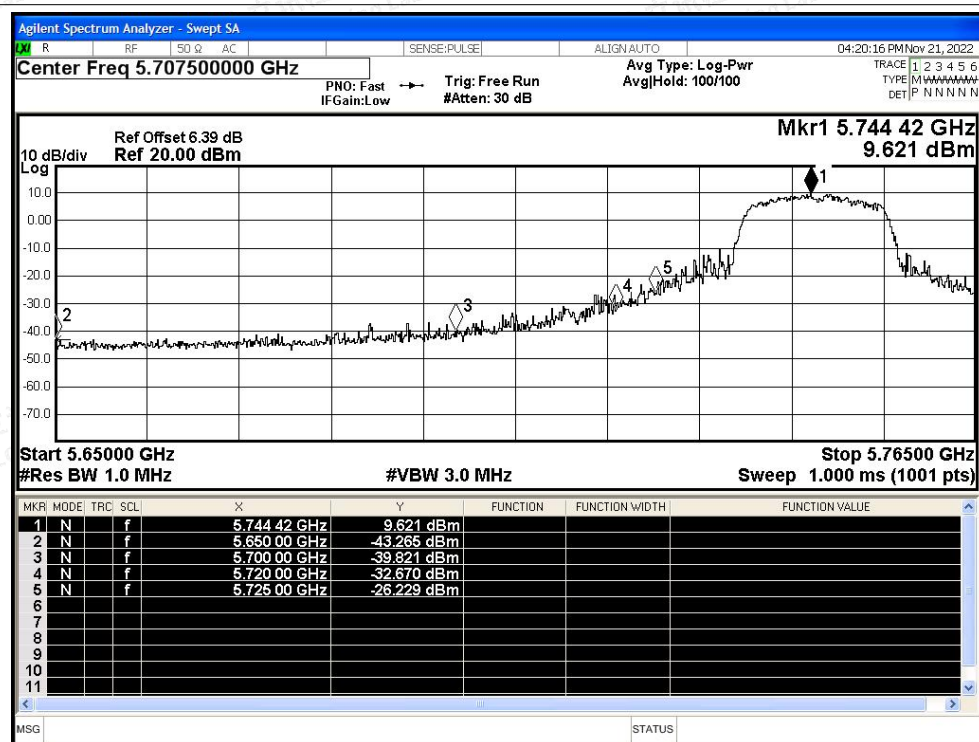
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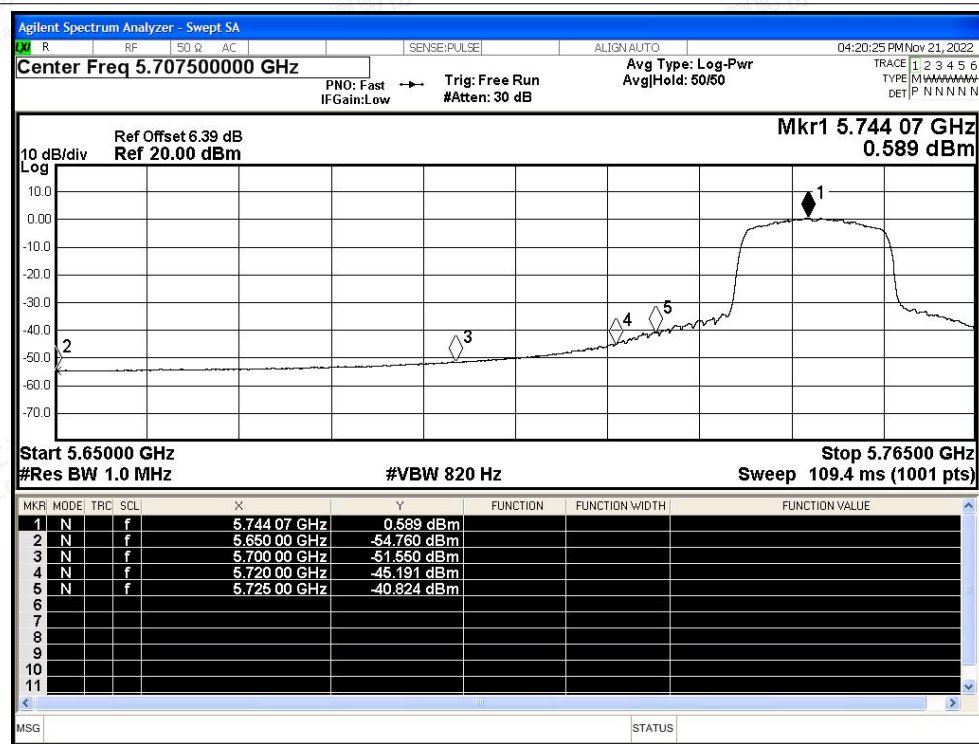
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Restrict Band NVNT n20 5745MHz Ant1 Peak



Restrict Band NVNT n20 5745MHz Ant1 Average



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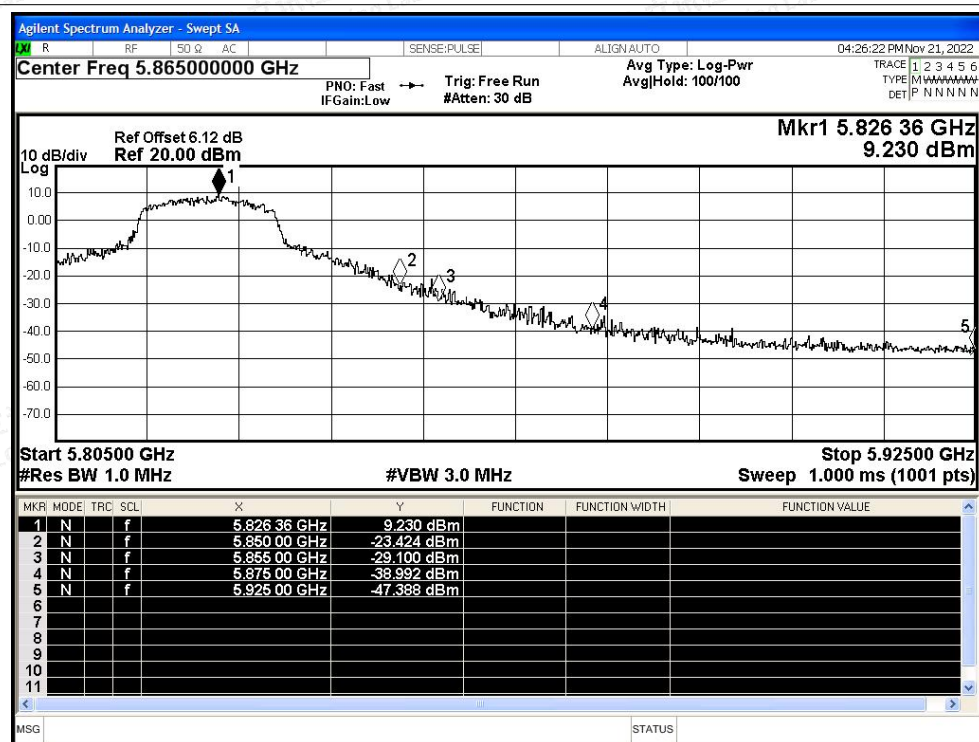
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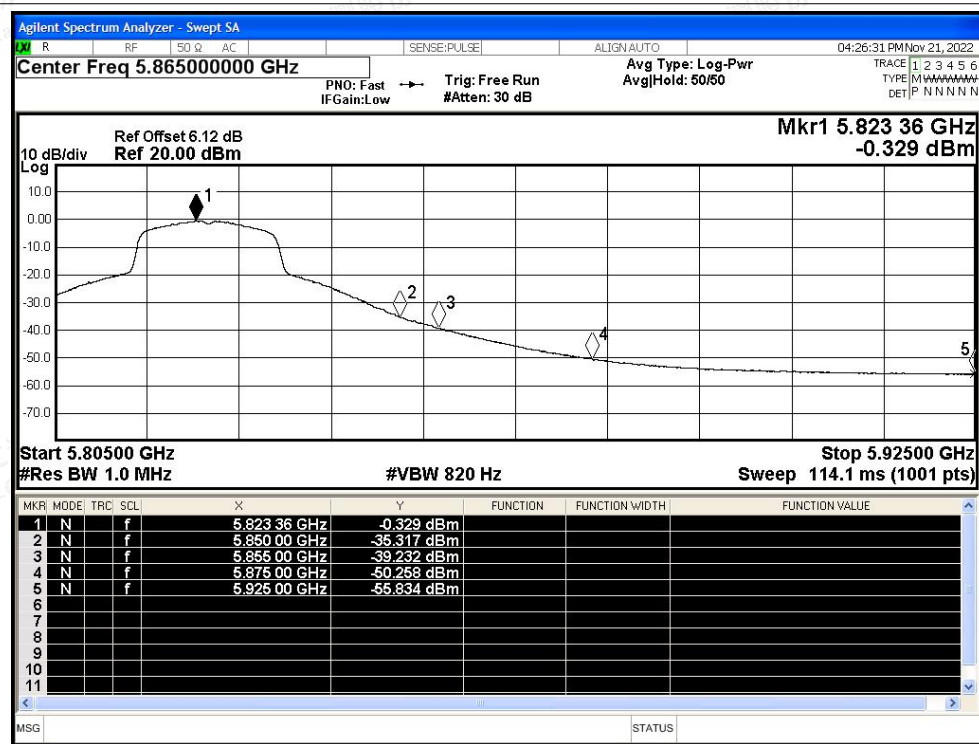
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Restrict Band NVNT n20 5825MHz Ant1 Peak



Restrict Band NVNT n20 5825MHz Ant1 Average



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D.6 Frequency Stability

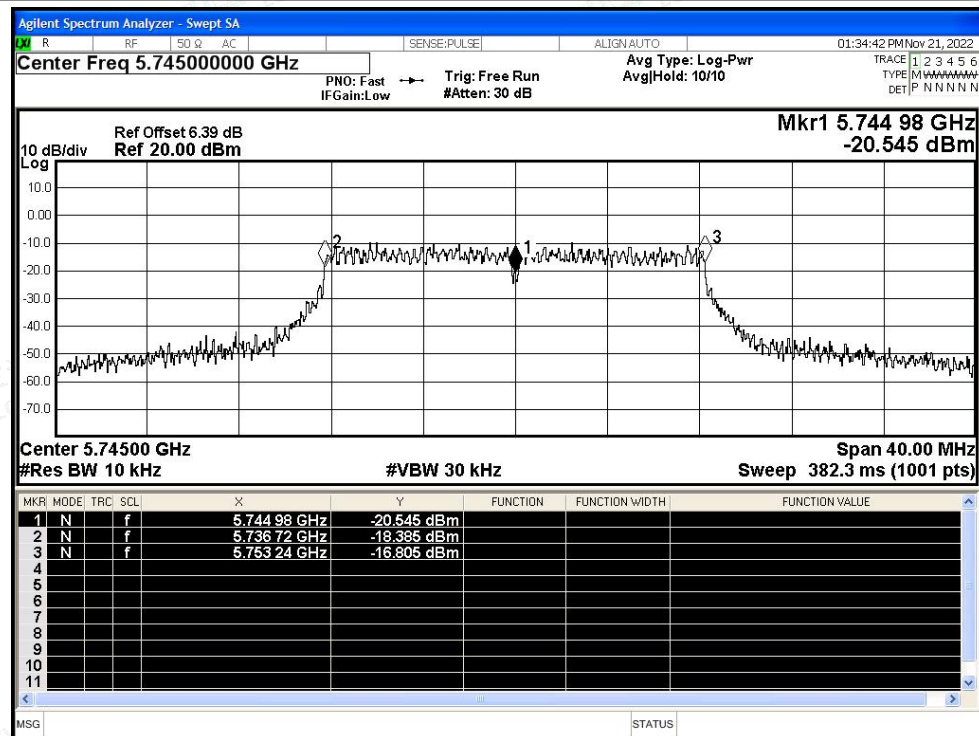
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5744.98	-20000	-3.48	25	Pass
NVNT	a	5785	Ant1	5785	0	0	25	Pass
NVNT	a	5825	Ant1	5824.98	-20000	-3.43	25	Pass



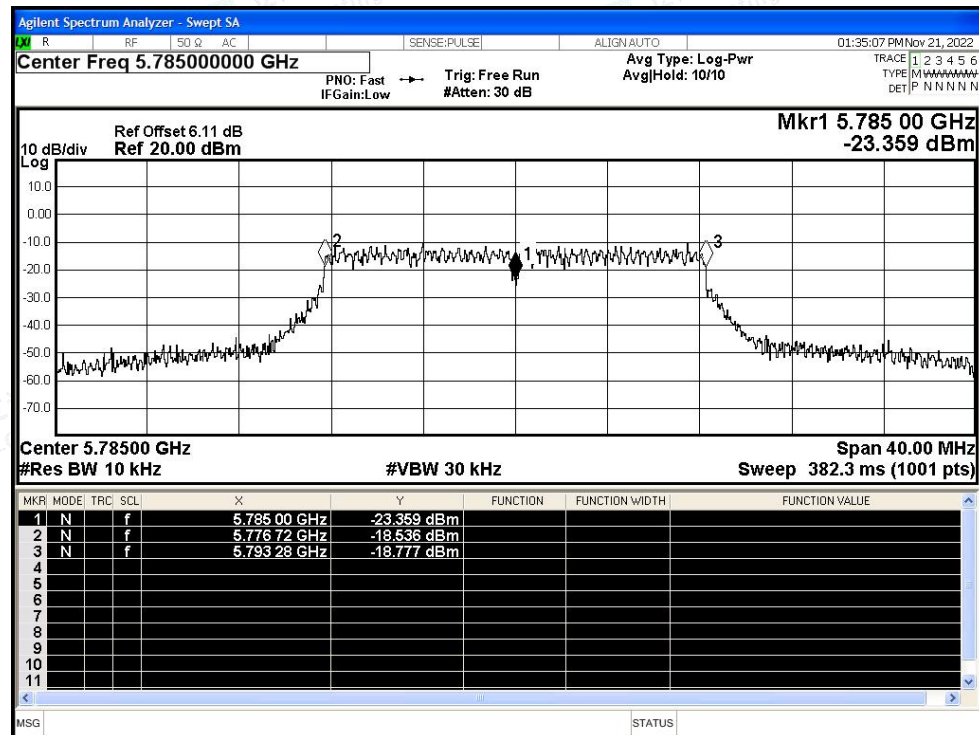


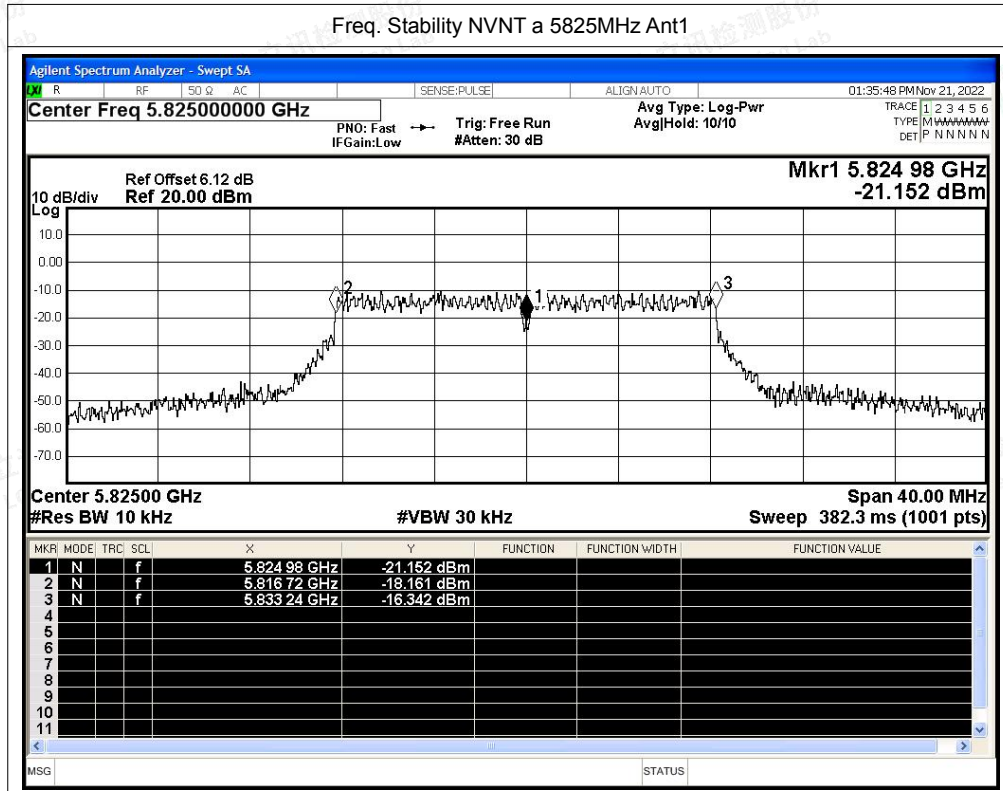
Test Graphs

Freq. Stability NVNT a 5745MHz Ant1



Freq. Stability NVNT a 5785MHz Ant1







D.7 Duty Cycle

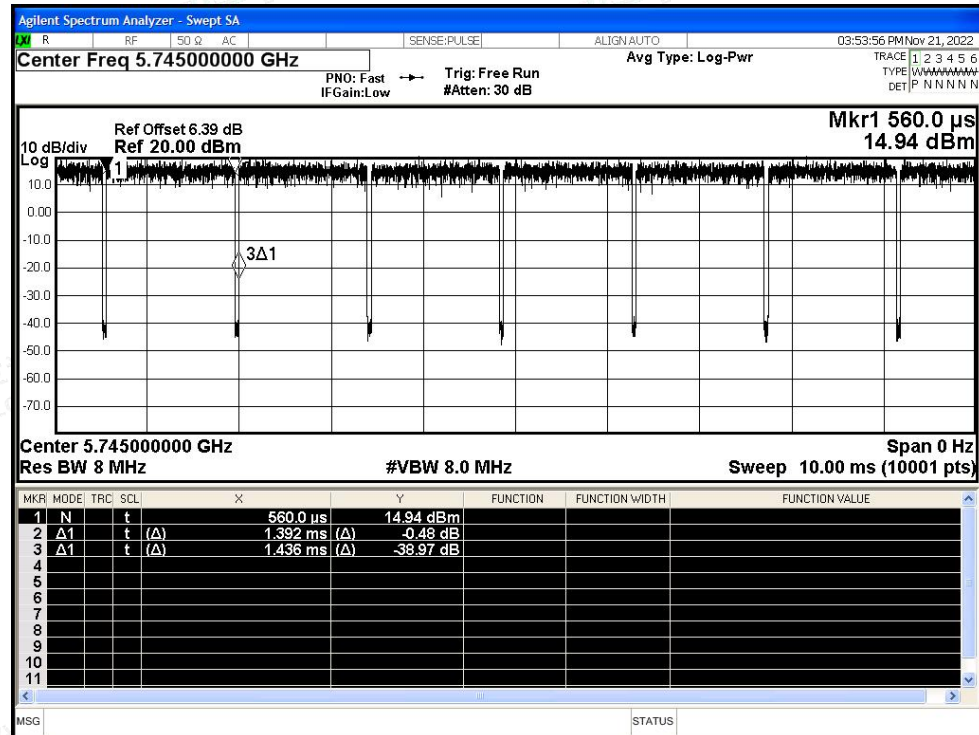
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	96.94	0.13	0.72
NVNT	a	5785	Ant1	96.94	0.13	0.72
NVNT	a	5825	Ant1	96.87	0.14	0.72
NVNT	n20	5745	Ant1	96.7	0.15	0.78
NVNT	n20	5785	Ant1	96.7	0.15	0.78
NVNT	n20	5825	Ant1	96.7	0.15	0.78



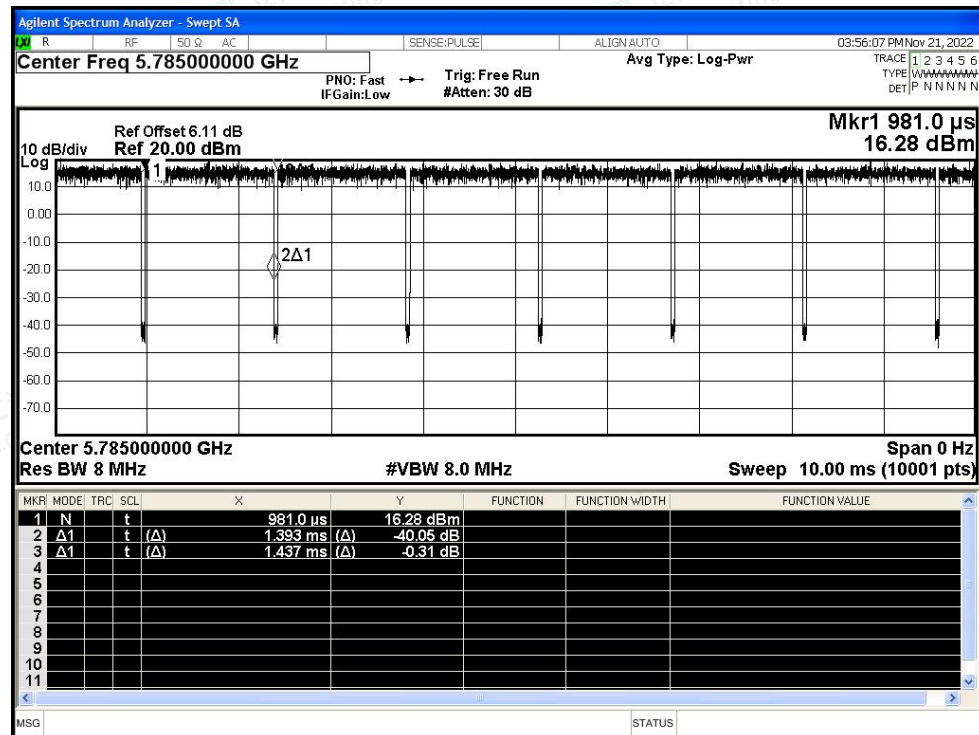


Test Graphs

Duty Cycle NVNT a 5745MHz Ant1

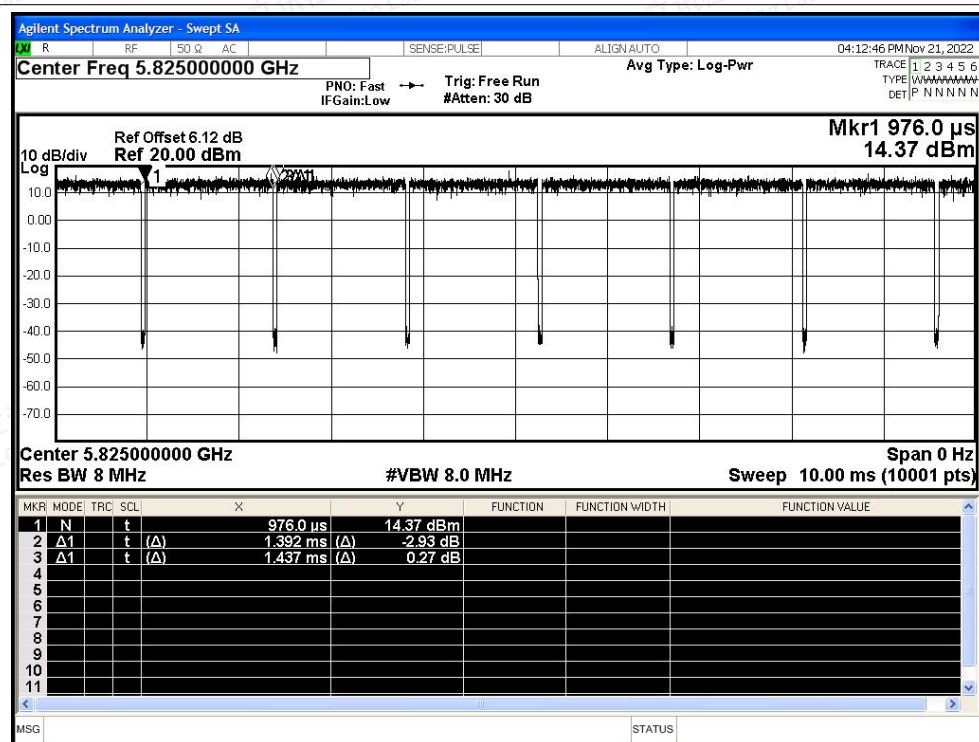


Duty Cycle NVNT a 5785MHz Ant1

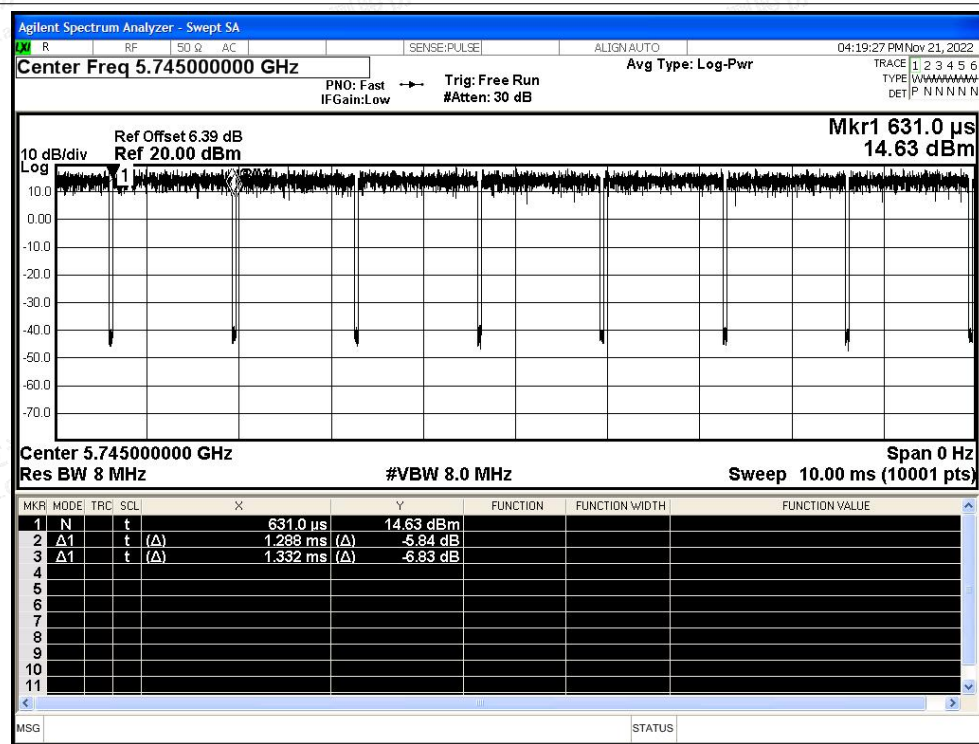




Duty Cycle NVNT a 5825MHz Ant1

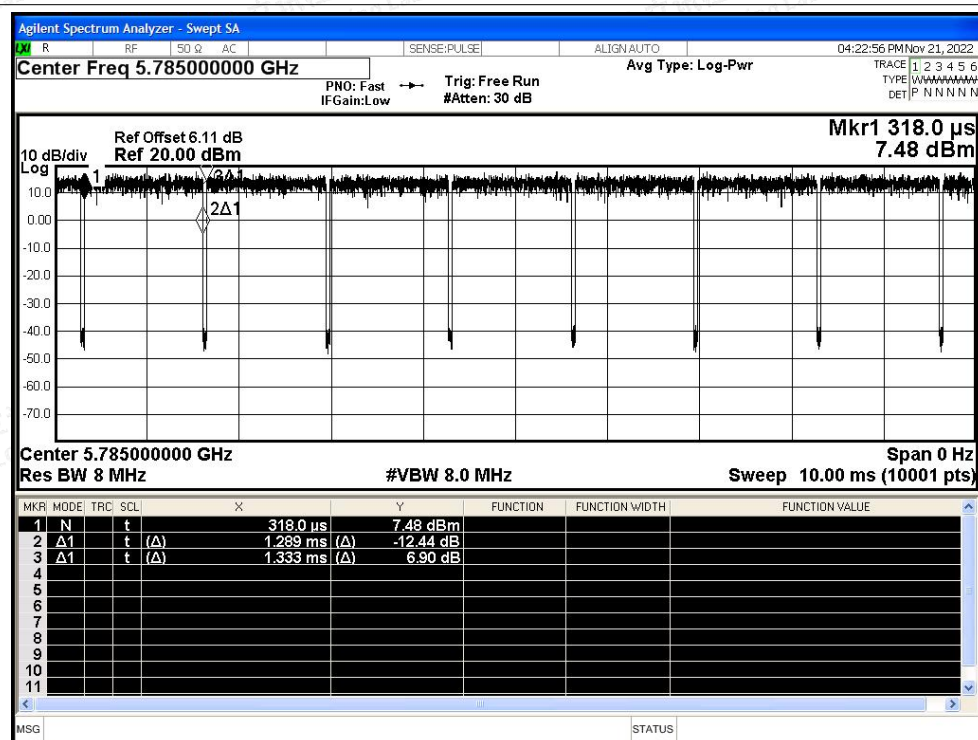


Duty Cycle NVNT n20 5745MHz Ant1





Duty Cycle NVNT n20 5785MHz Ant1



Duty Cycle NVNT n20 5825MHz Ant1

