

# RF Test Data for 5G WiFi (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	projector
<b>Test Model:</b>	TS-1
<b>Sample ID:</b>	202308-0329-1-2#
Environmental Conditions	
<b>Temperature:</b>	25°C
<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 22V
<b>Test Engineer:</b>	Li ying jing
Note: For a more detailed features description, please refer to the report TBR-C-202308-0329-43 The report only show the worst case data.	



## Contents

1. Duty Cycle.....	3
2. Maximum Conducted Output Power.....	11
3. -6dB Bandwidth.....	12
4. Occupied Channel Bandwidth.....	20
5. Maximum Power Spectral Density Level.....	28
6. Band Edge.....	36
7. Frequency Stability.....	42
8. Conducted RF Spurious Emission.....	46
9. Restrict Band.....	56

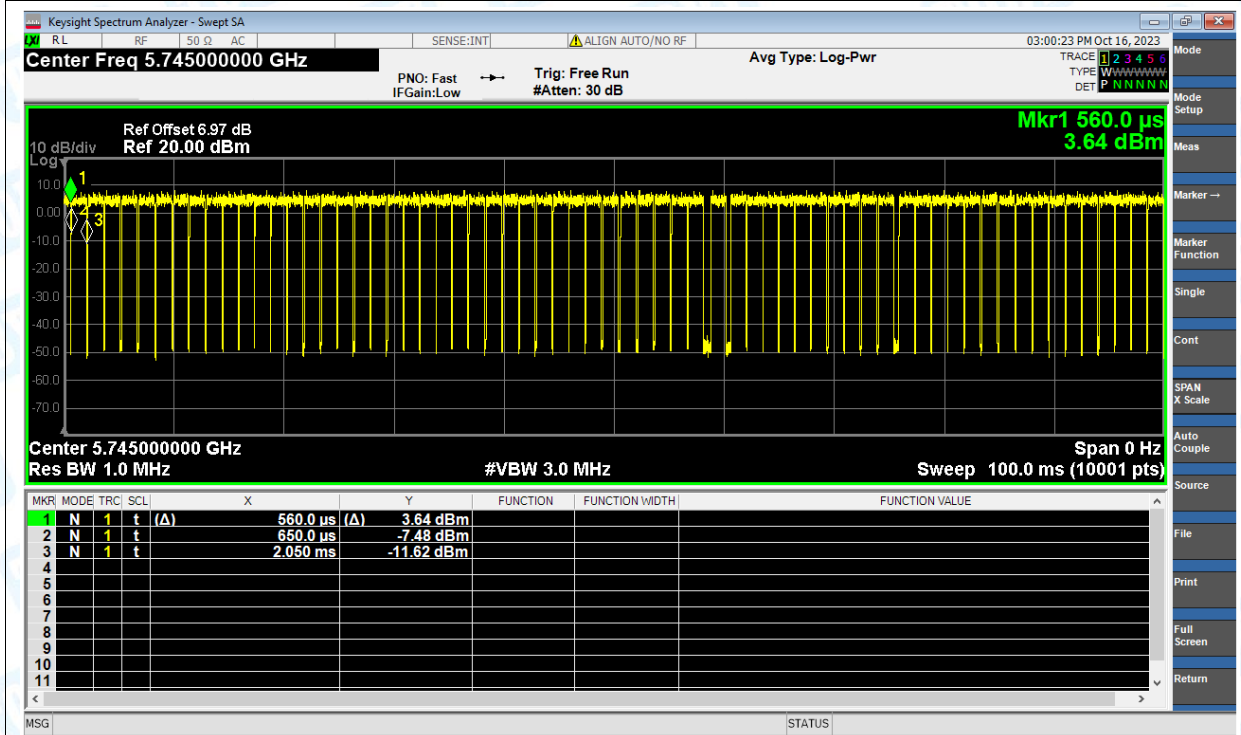


# 1. Duty Cycle

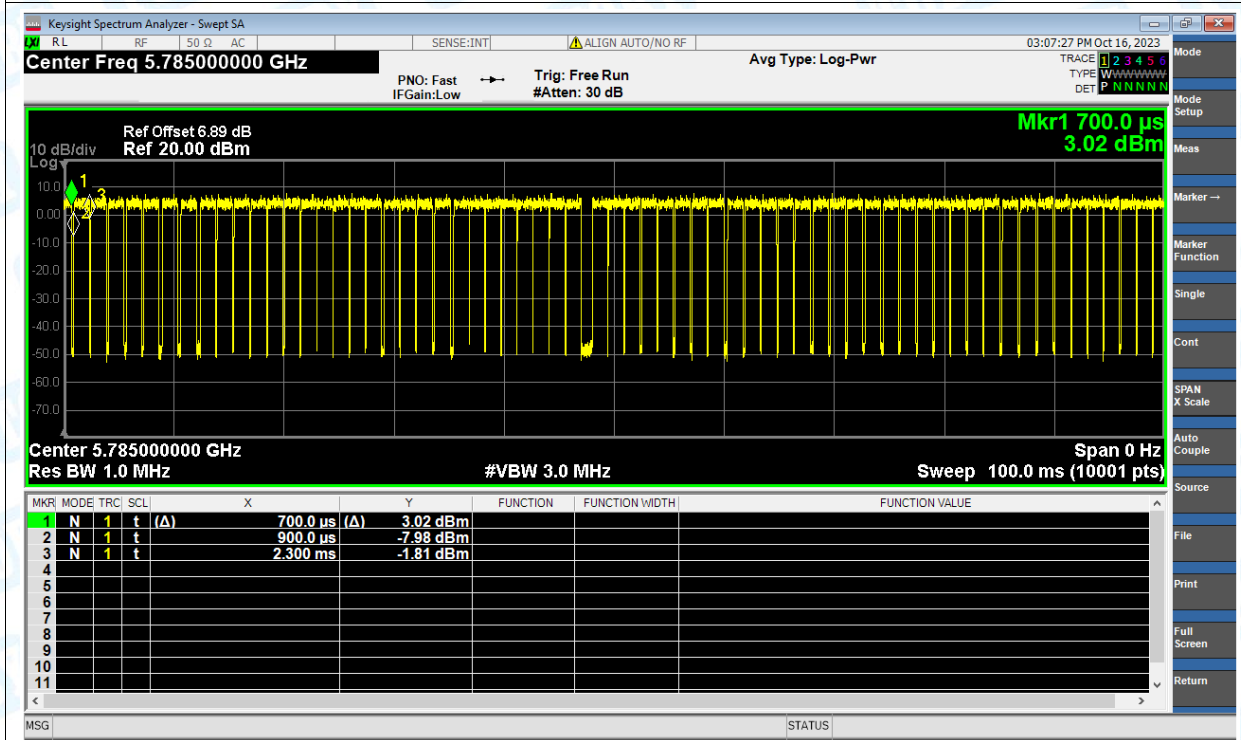
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	93.96	0.27	0.71
NVNT	a	5785	Ant1	87.5	0.58	0.71
NVNT	a	5825	Ant1	92.72	0.33	0.71
NVNT	ac(VHT20)	5745	Ant1	98.08	0.08	0.2
NVNT	ac(VHT20)	5785	Ant1	96.77	0.14	0.2
NVNT	ac(VHT20)	5825	Ant1	99.03	0.04	0.2
NVNT	ac(VHT40)	5755	Ant1	96.84	0.14	0.2
NVNT	ac(VHT40)	5795	Ant1	97.81	0.1	0.2
NVNT	n(HT20)	5745	Ant1	96.58	0.15	0.2
NVNT	n(HT20)	5785	Ant1	96.22	0.17	0.2
NVNT	n(HT20)	5825	Ant1	97.14	0.13	0.2
NVNT	n(HT40)	5755	Ant1	98.79	0.05	0.2
NVNT	n(HT40)	5795	Ant1	99.19	0.04	0.2

Test Graphs

Duty Cycle NVNT a 5745MHz Ant1

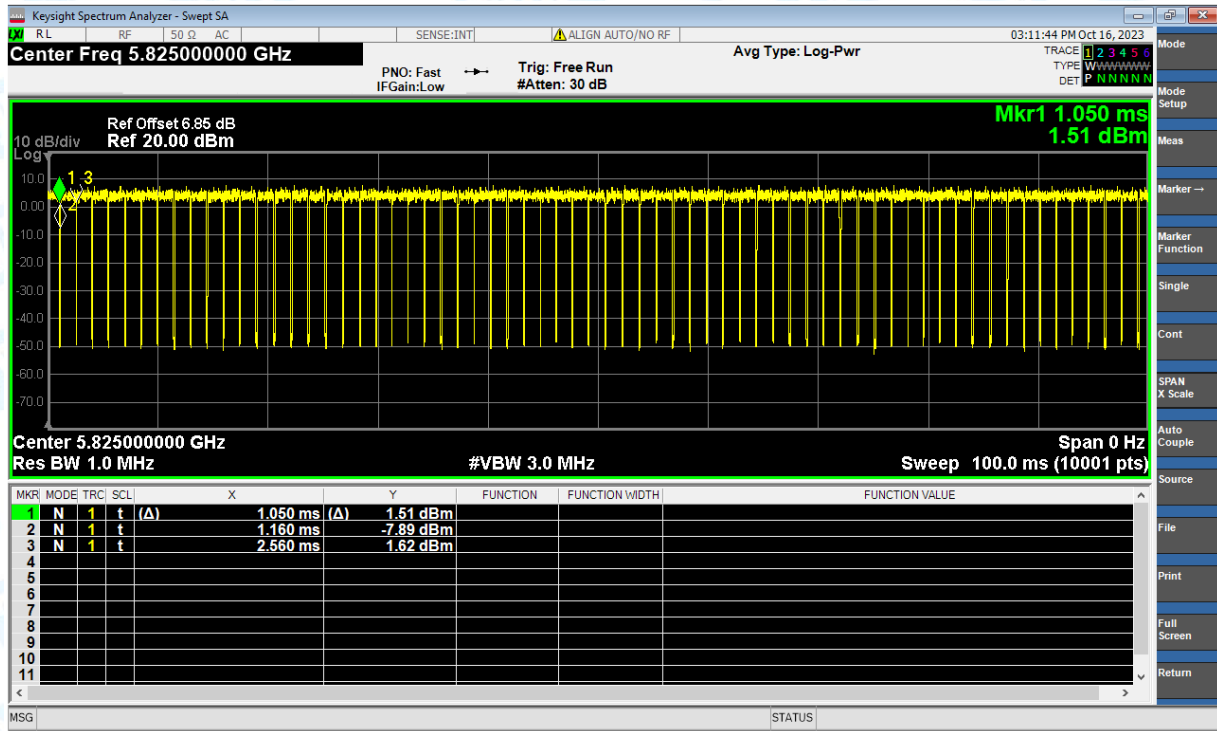


Duty Cycle NVNT a 5785MHz Ant1

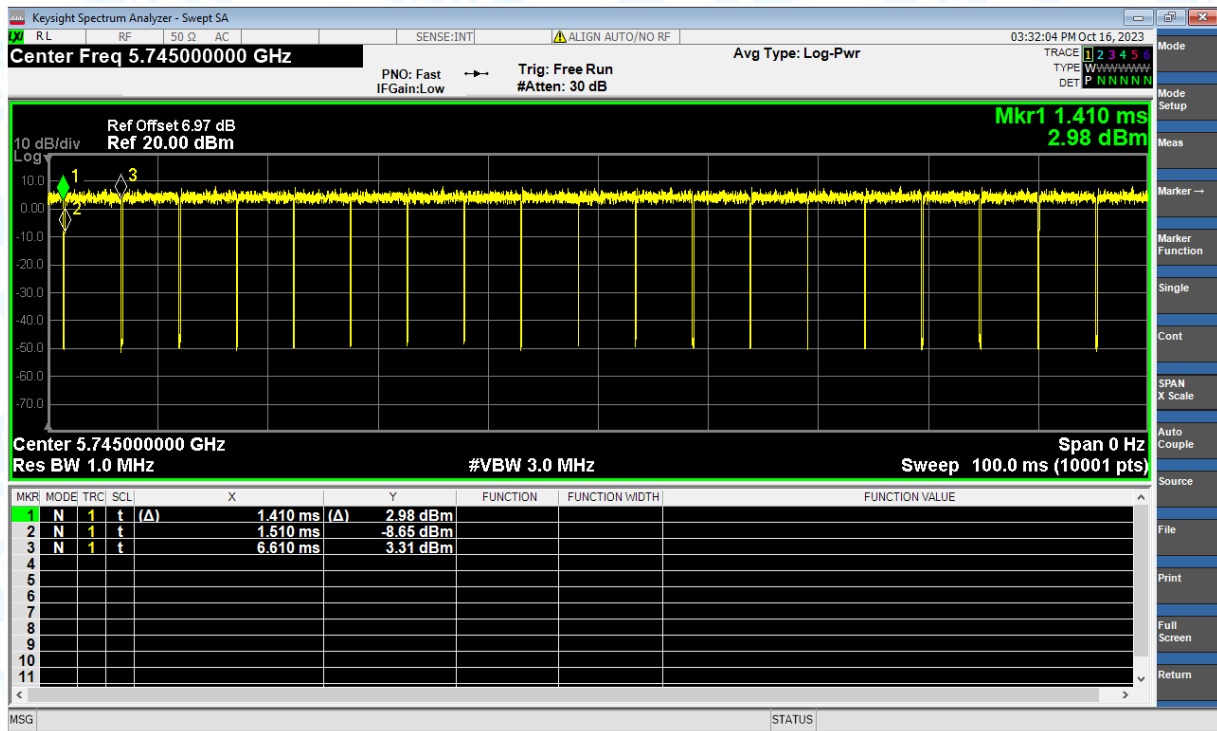


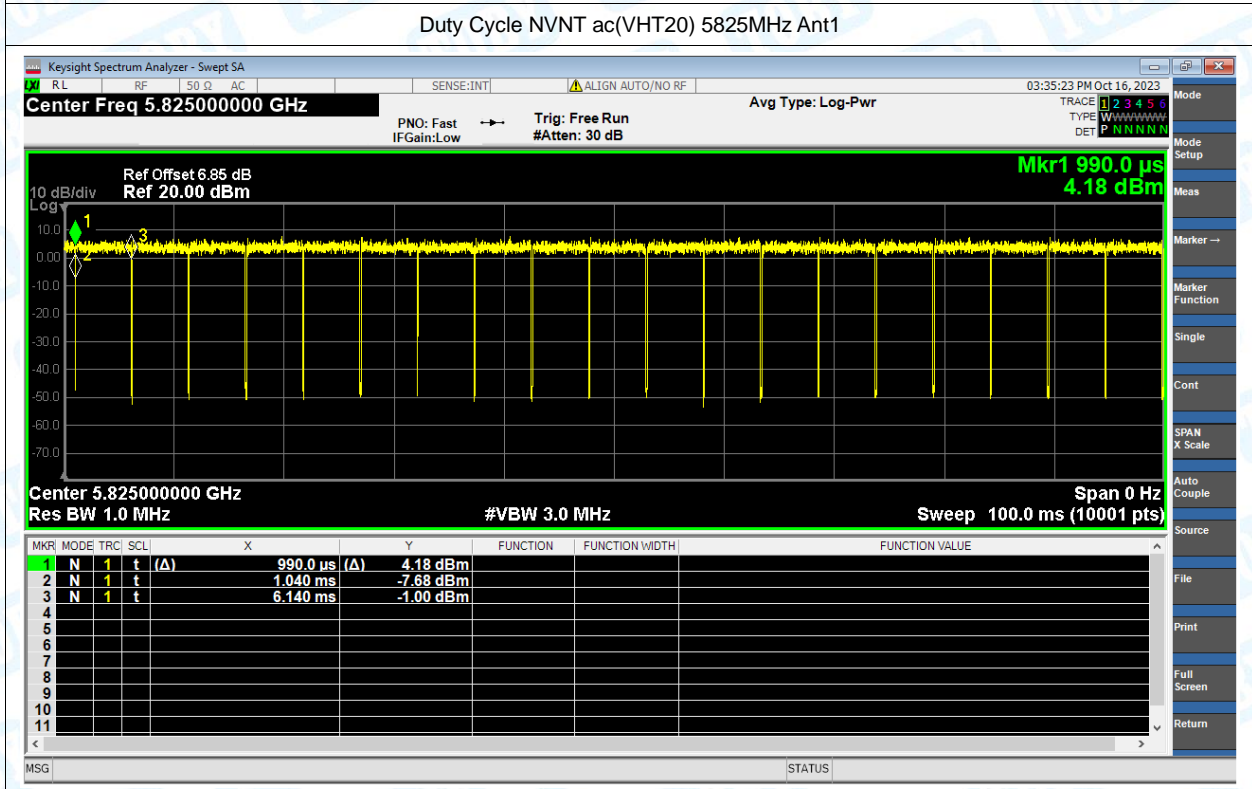
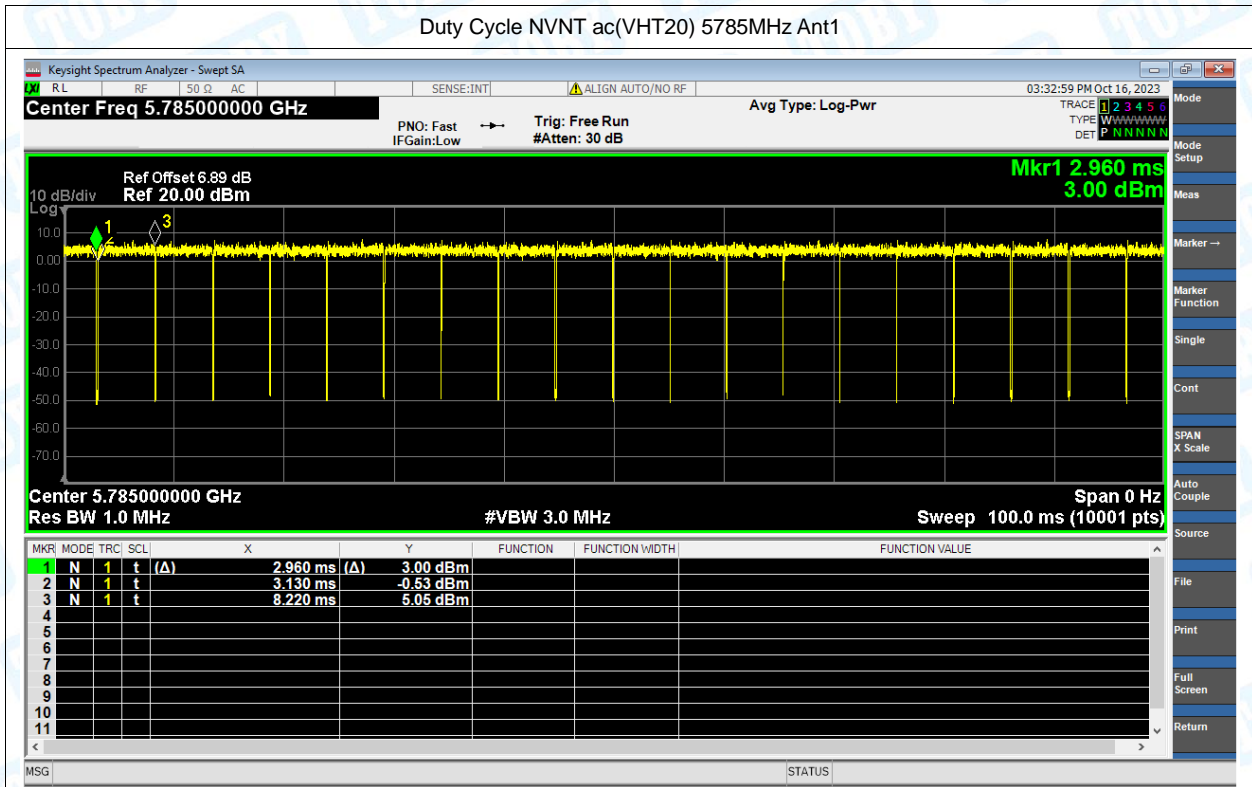


Duty Cycle NVNT a 5825MHz Ant1

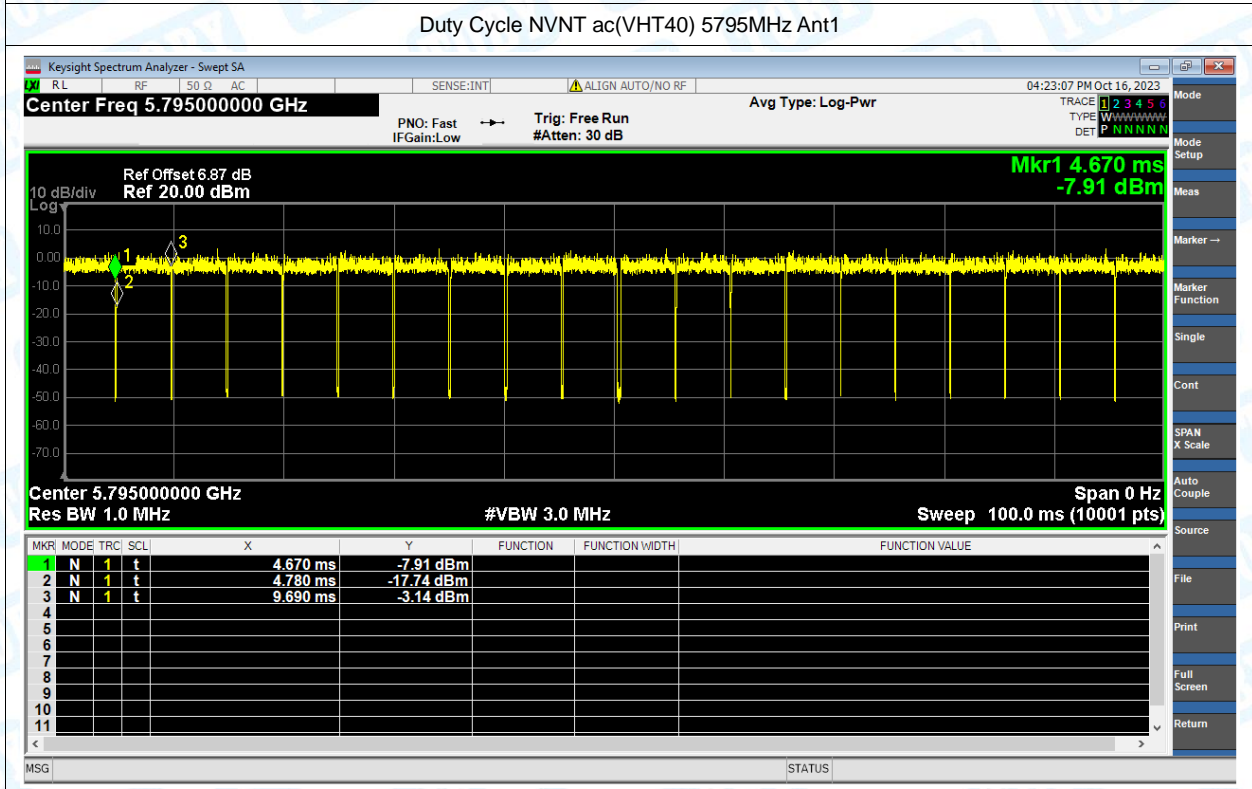
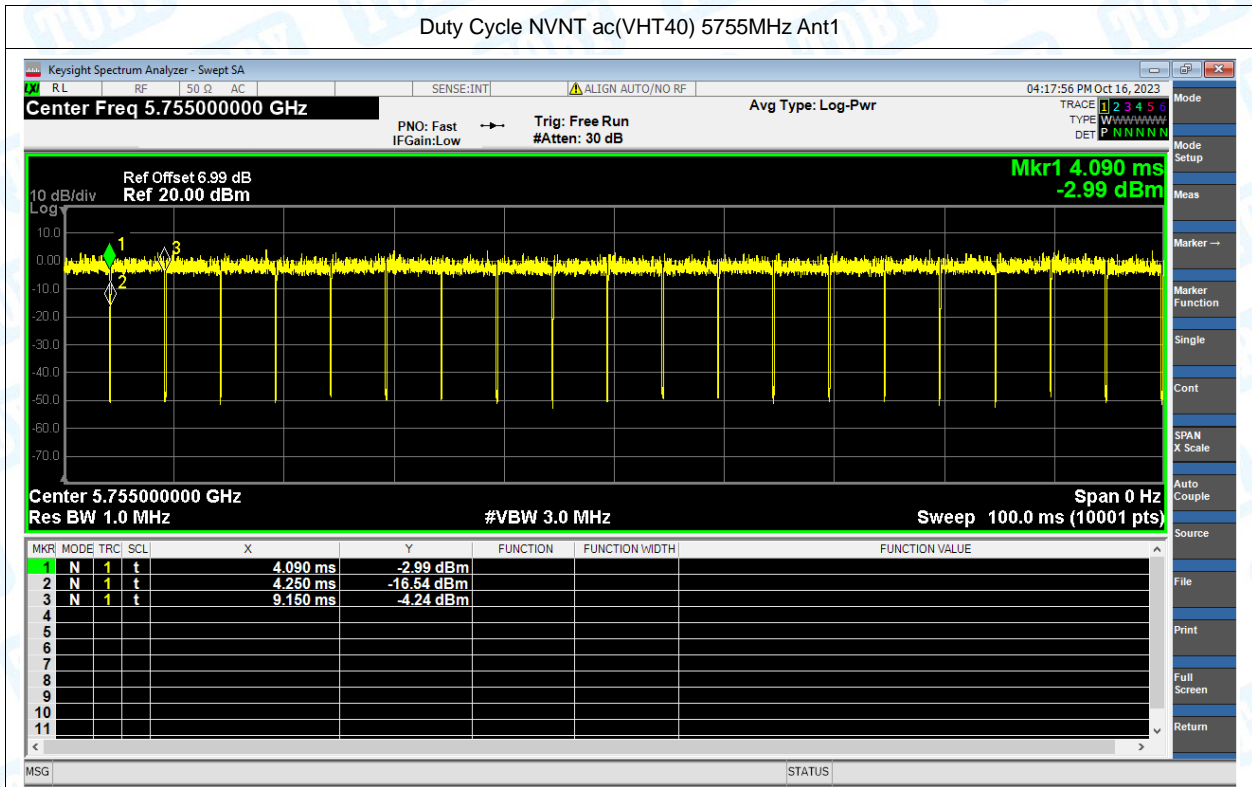


Duty Cycle NVNT ac(VHT20) 5745MHz Ant1

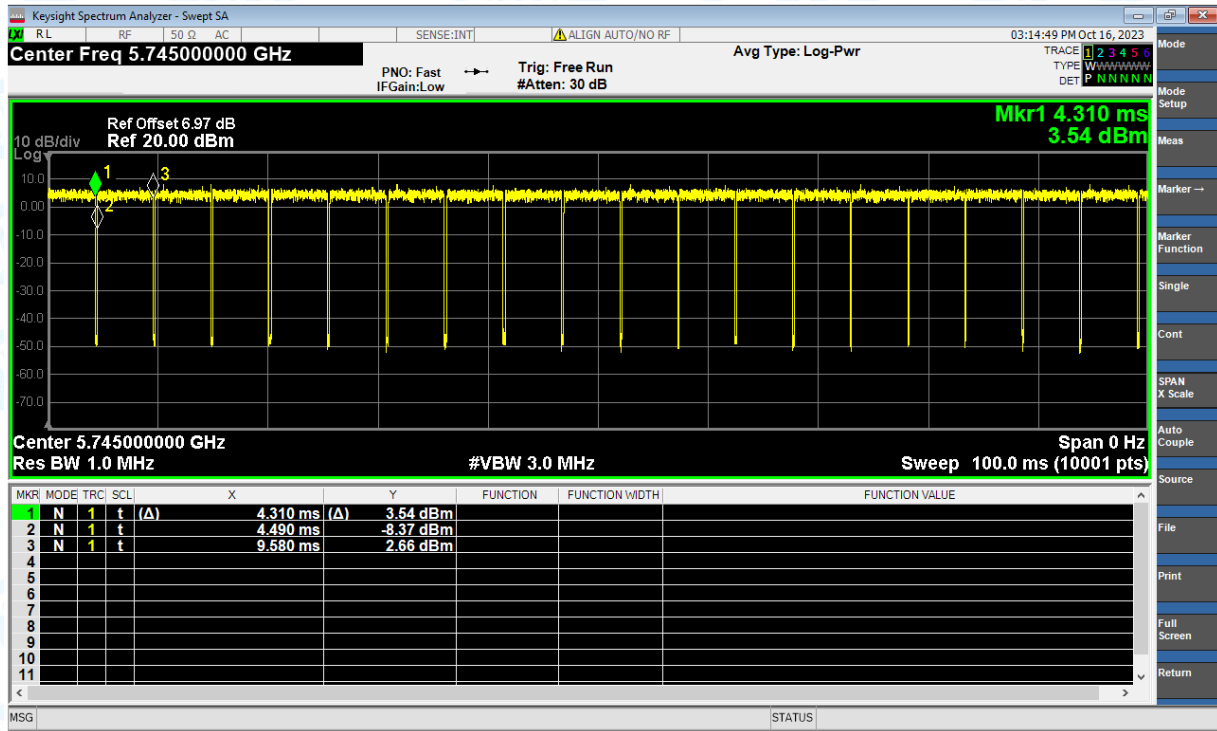




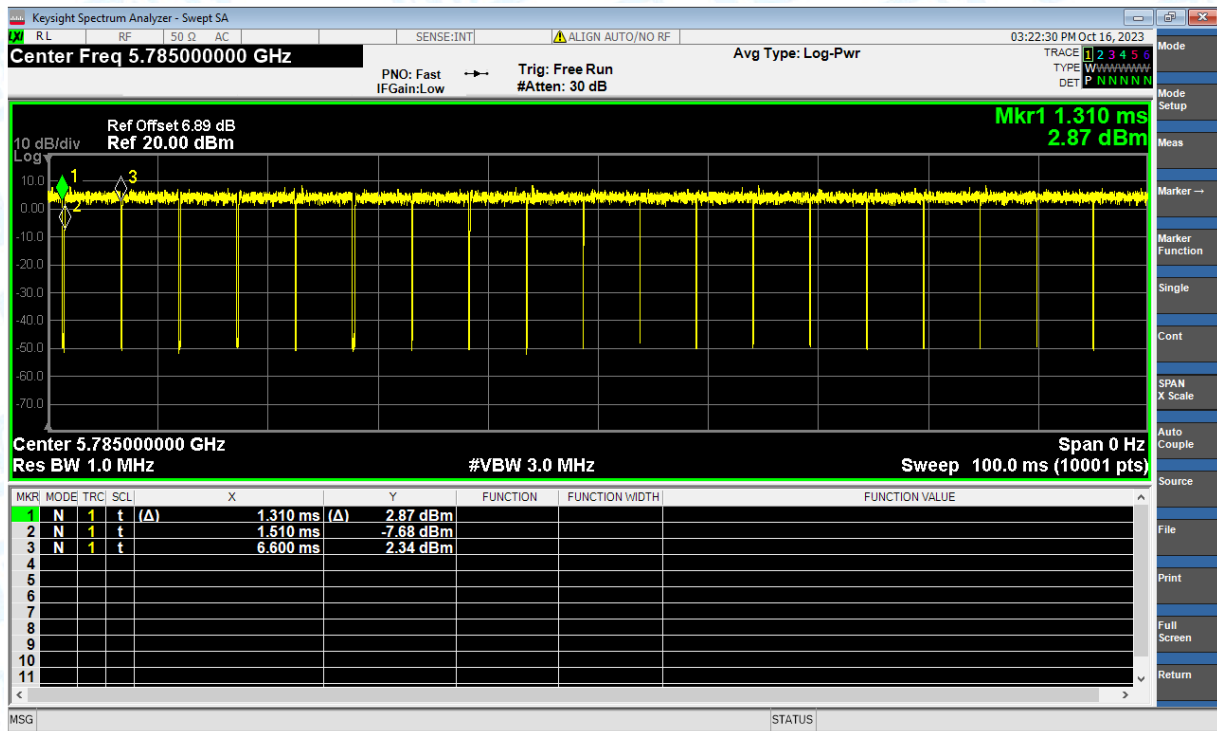




Duty Cycle NVNT n(HT20) 5745MHz Ant1

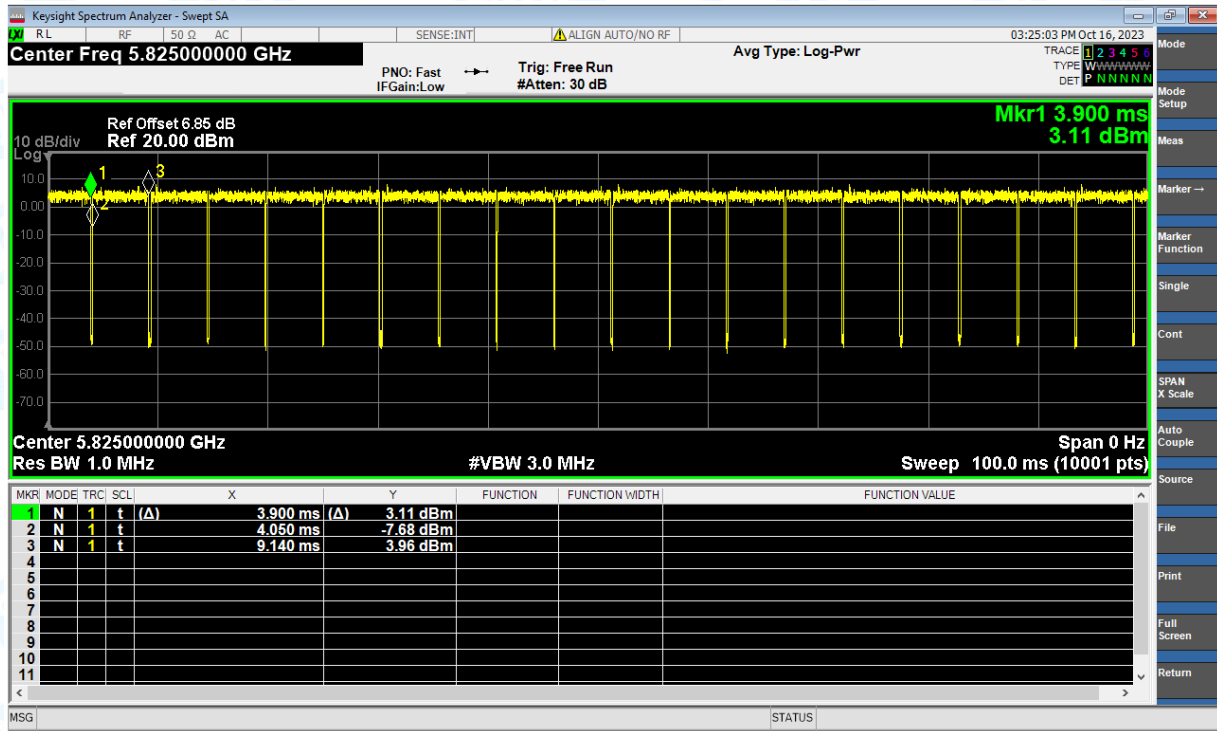


Duty Cycle NVNT n(HT20) 5785MHz Ant1

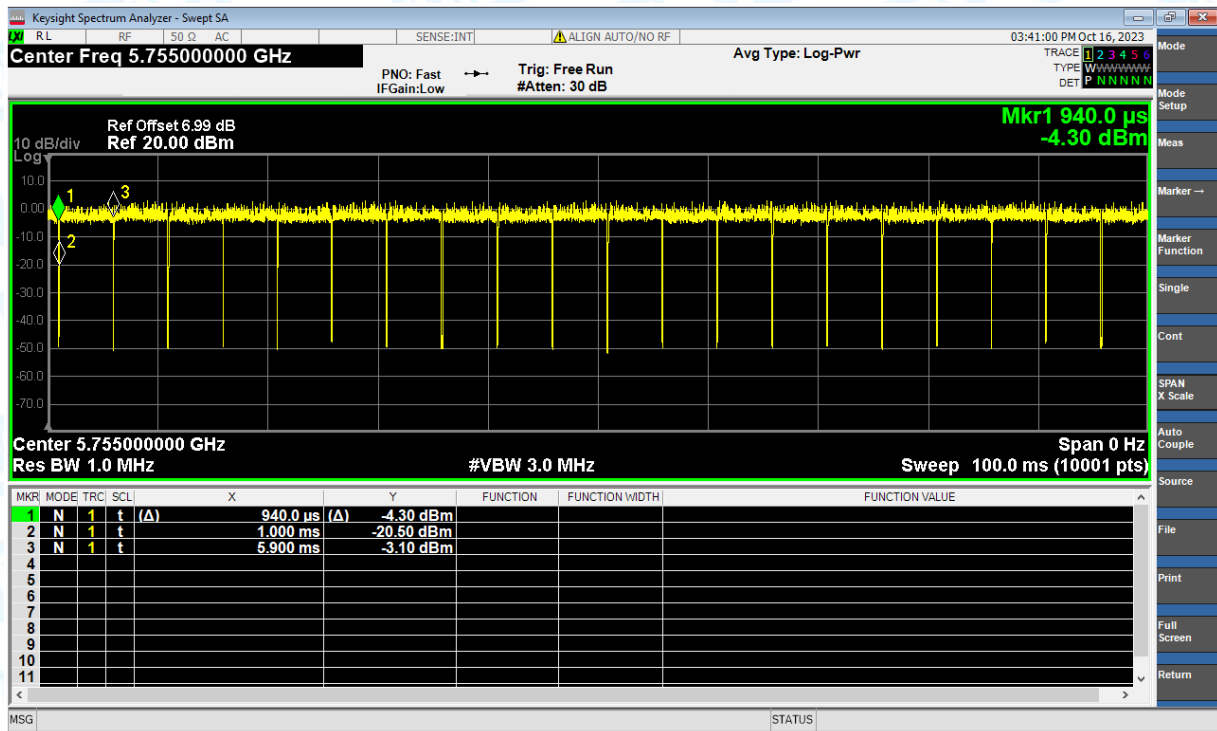


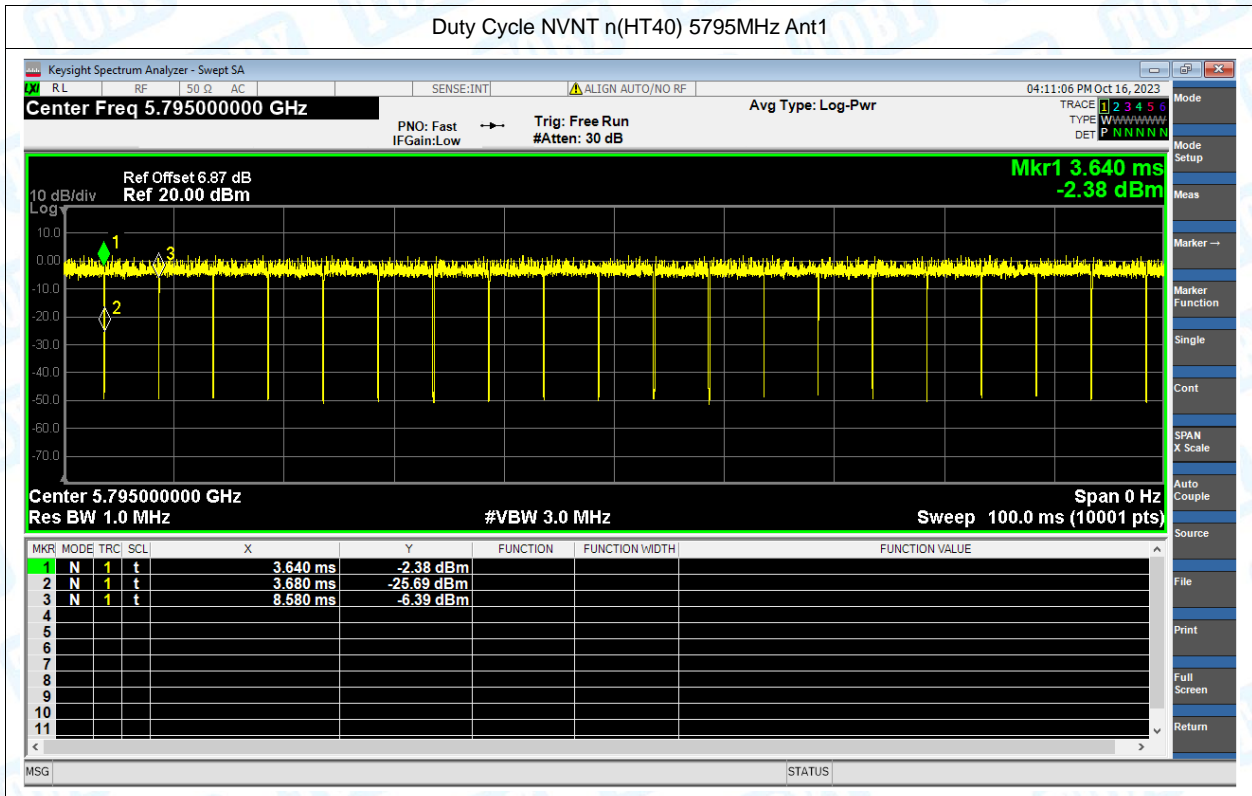


Duty Cycle NVNT n(HT20) 5825MHz Ant1



Duty Cycle NVNT n(HT40) 5755MHz Ant1







## 2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	11.660	30	Pass
NVNT	a	5785	Ant1	10.981	30	Pass
NVNT	a	5825	Ant1	11.518	30	Pass
NVNT	ac(VHT20)	5745	Ant1	11.783	30	Pass
NVNT	ac(VHT20)	5785	Ant1	11.295	30	Pass
NVNT	ac(VHT20)	5825	Ant1	11.738	30	Pass
NVNT	ac(VHT40)	5755	Ant1	11.840	30	Pass
NVNT	ac(VHT40)	5795	Ant1	11.082	30	Pass
NVNT	n(HT20)	5745	Ant1	11.783	30	Pass
NVNT	n(HT20)	5785	Ant1	11.832	30	Pass
NVNT	n(HT20)	5825	Ant1	11.803	30	Pass
NVNT	n(HT40)	5755	Ant1	11.846	30	Pass
NVNT	n(HT40)	5795	Ant1	11.133	30	Pass

Note: The Duty Cycle Factor is compensated in the graph.



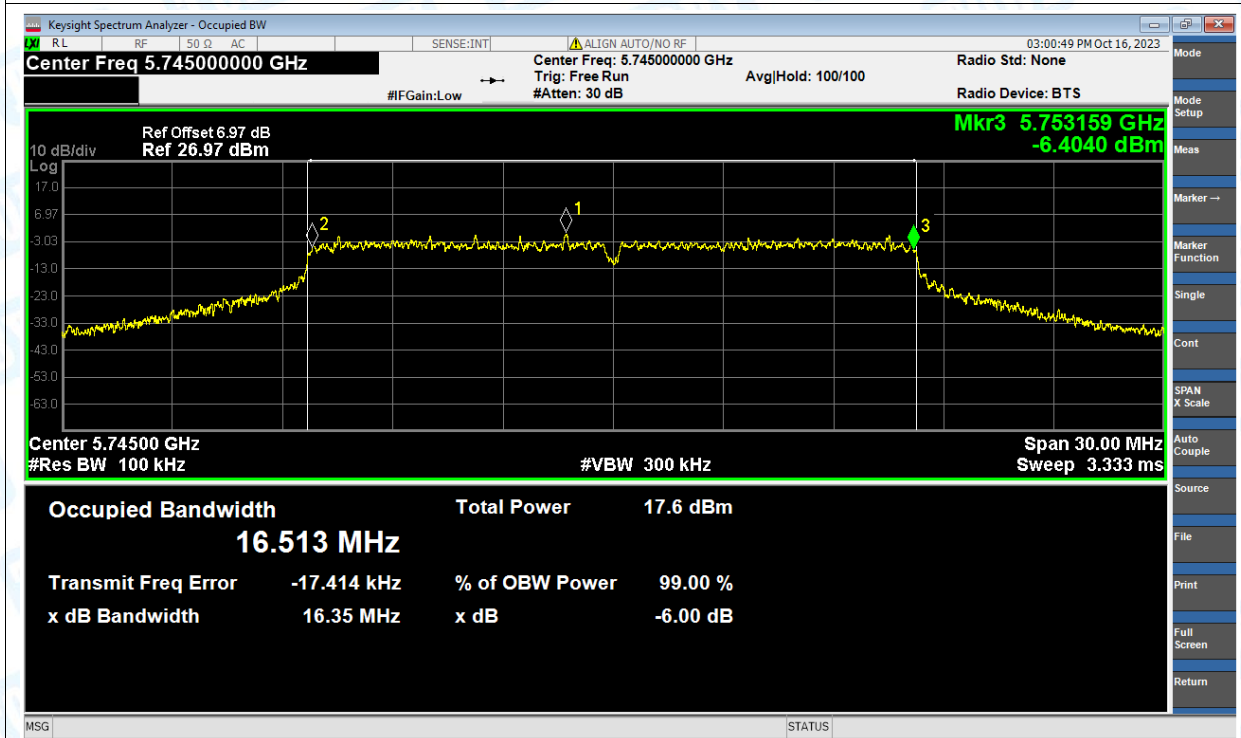
### 3. -6dB Bandwidth

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	16.33	0.5	Pass
NVNT	a	5825	Ant1	16.34	0.5	Pass
NVNT	ac(VHT20)	5745	Ant1	17.58	0.5	Pass
NVNT	ac(VHT20)	5785	Ant1	17.61	0.5	Pass
NVNT	ac(VHT20)	5825	Ant1	17.58	0.5	Pass
NVNT	ac(VHT40)	5755	Ant1	36.32	0.5	Pass
NVNT	ac(VHT40)	5795	Ant1	36.34	0.5	Pass
NVNT	n(HT20)	5745	Ant1	17.65	0.5	Pass
NVNT	n(HT20)	5785	Ant1	17.56	0.5	Pass
NVNT	n(HT20)	5825	Ant1	17.6	0.5	Pass
NVNT	n(HT40)	5755	Ant1	36.32	0.5	Pass
NVNT	n(HT40)	5795	Ant1	36.34	0.5	Pass

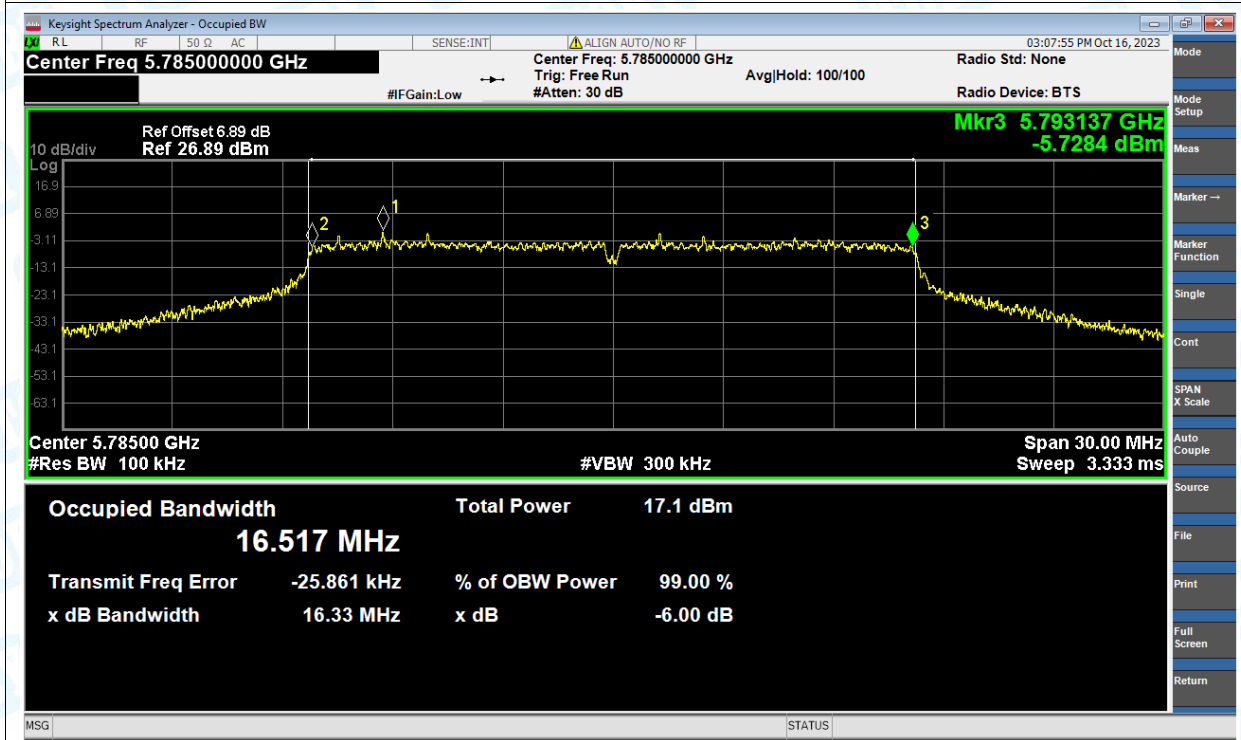


Test Graphs

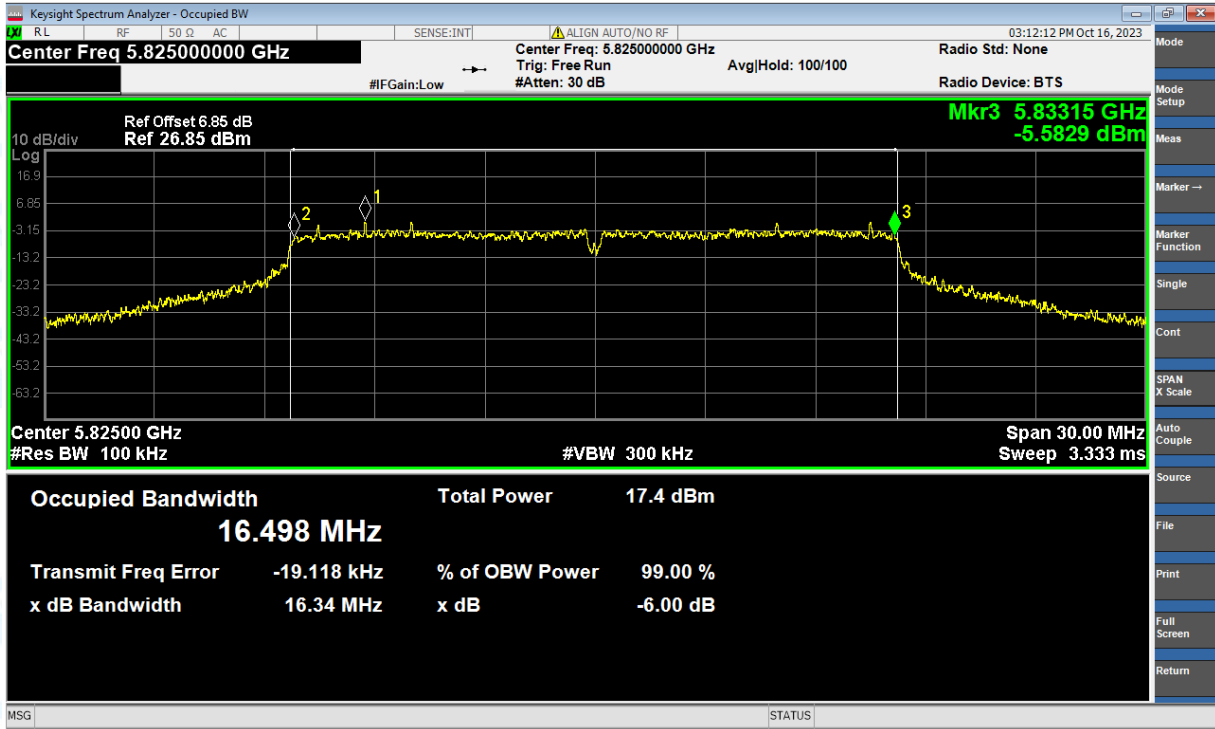
-6dB Bandwidth NVNT a 5745MHz Ant1



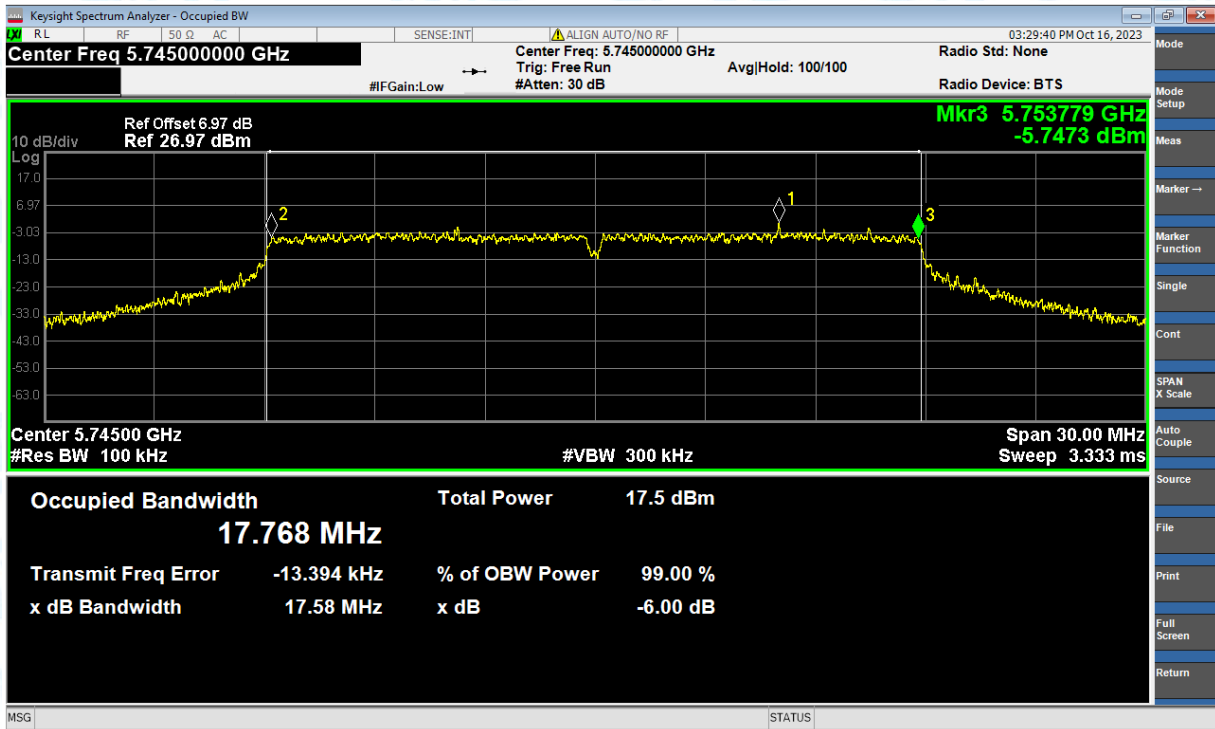
-6dB Bandwidth NVNT a 5785MHz Ant1



-6dB Bandwidth NVNT a 5825MHz Ant1

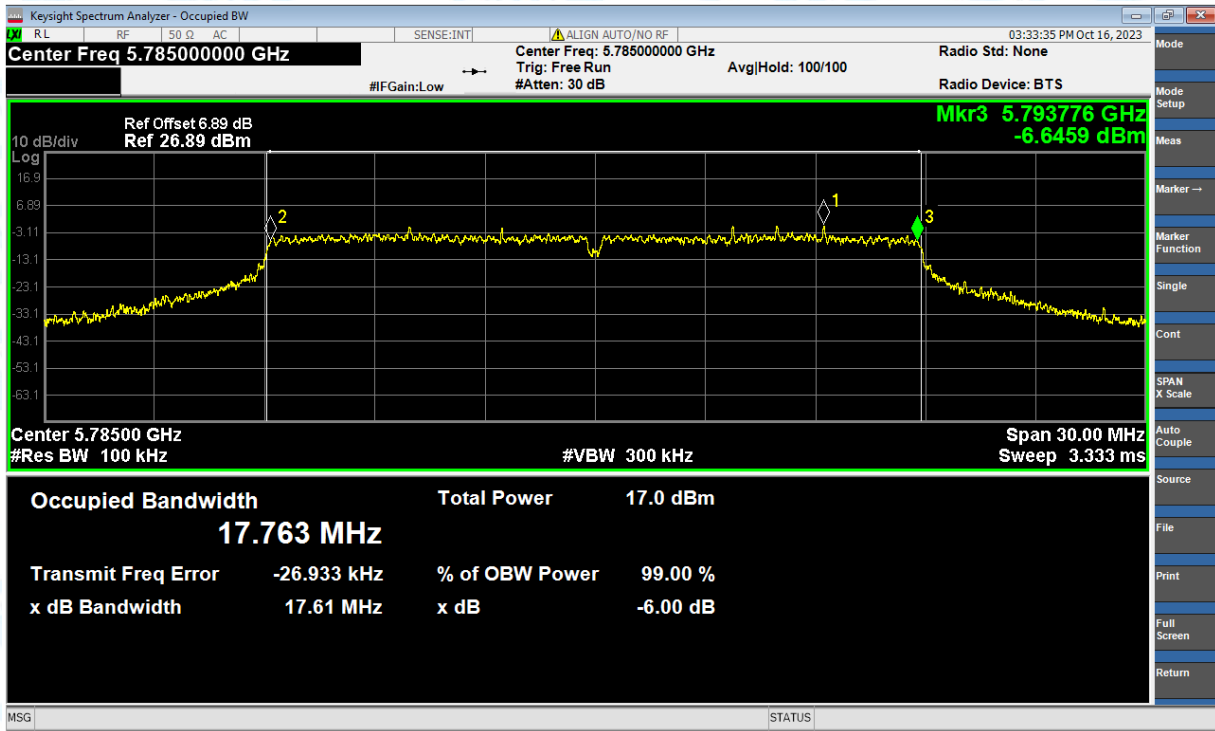


-6dB Bandwidth NVNT ac(VHT20) 5745MHz Ant1

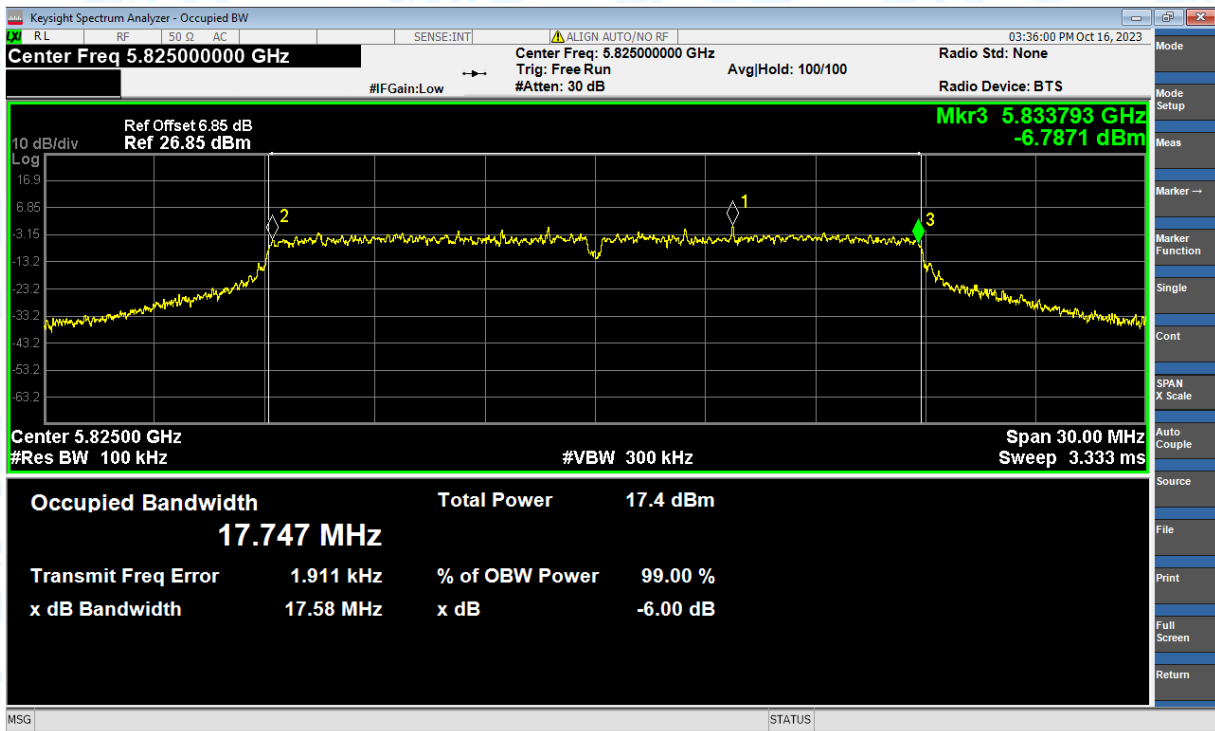




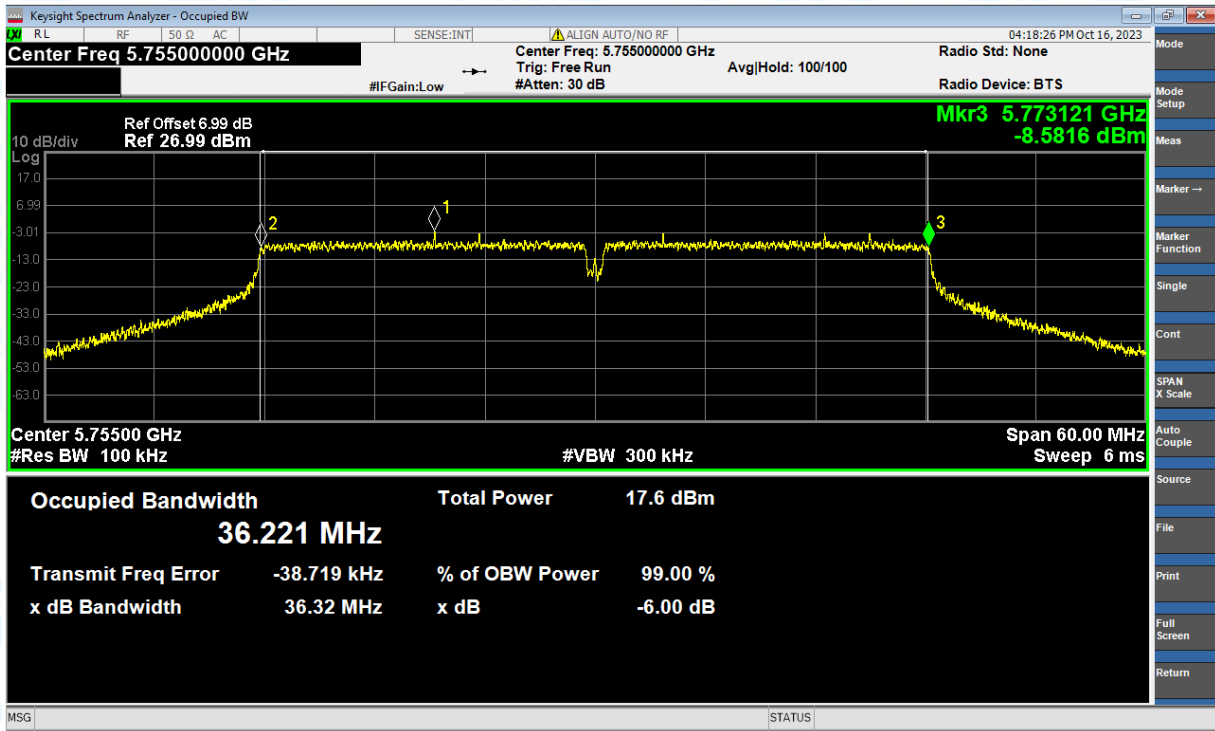
-6dB Bandwidth NVNT ac(VHT20) 5785MHz Ant1



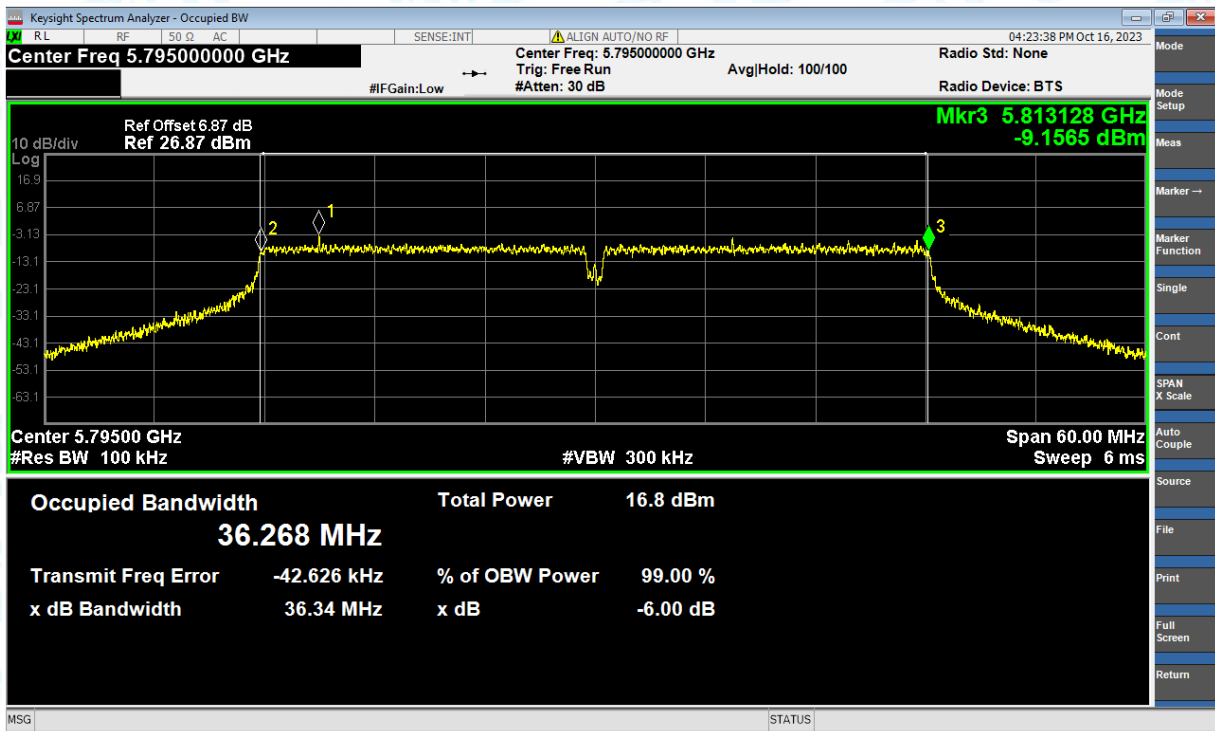
-6dB Bandwidth NVNT ac(VHT20) 5825MHz Ant1



-6dB Bandwidth NVNT ac(VHT40) 5755MHz Ant1

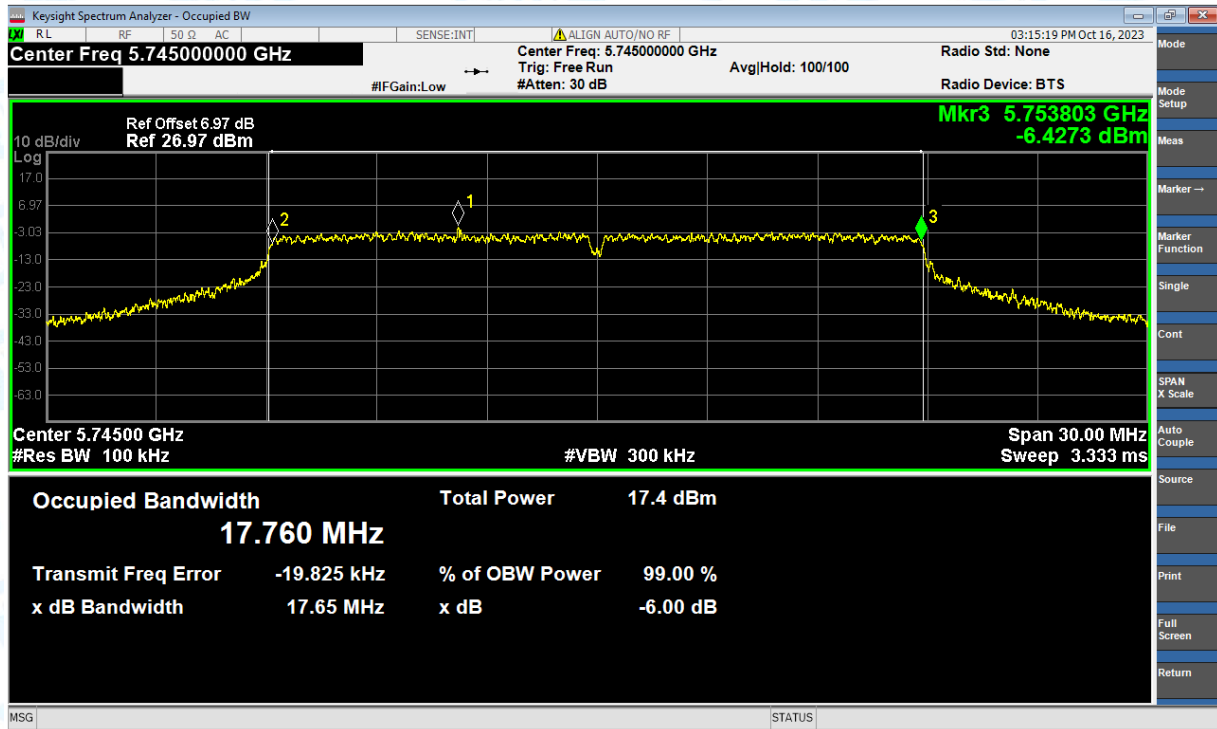


-6dB Bandwidth NVNT ac(VHT40) 5795MHz Ant1

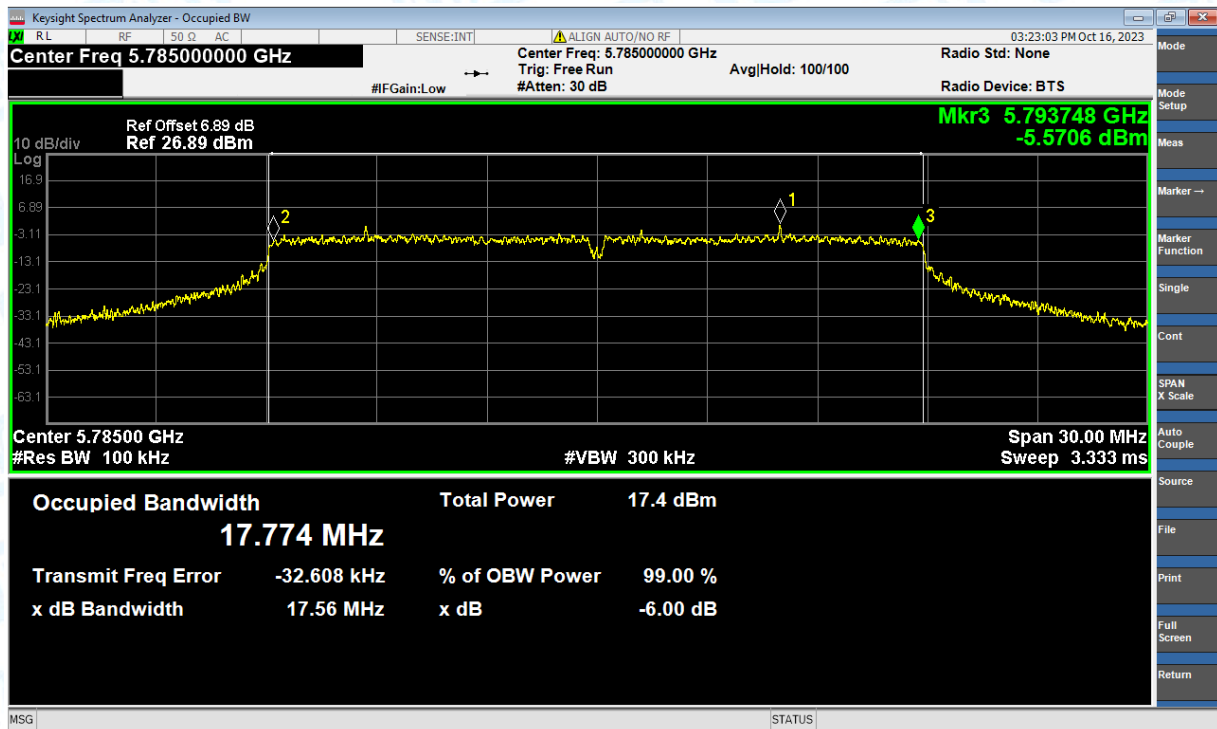




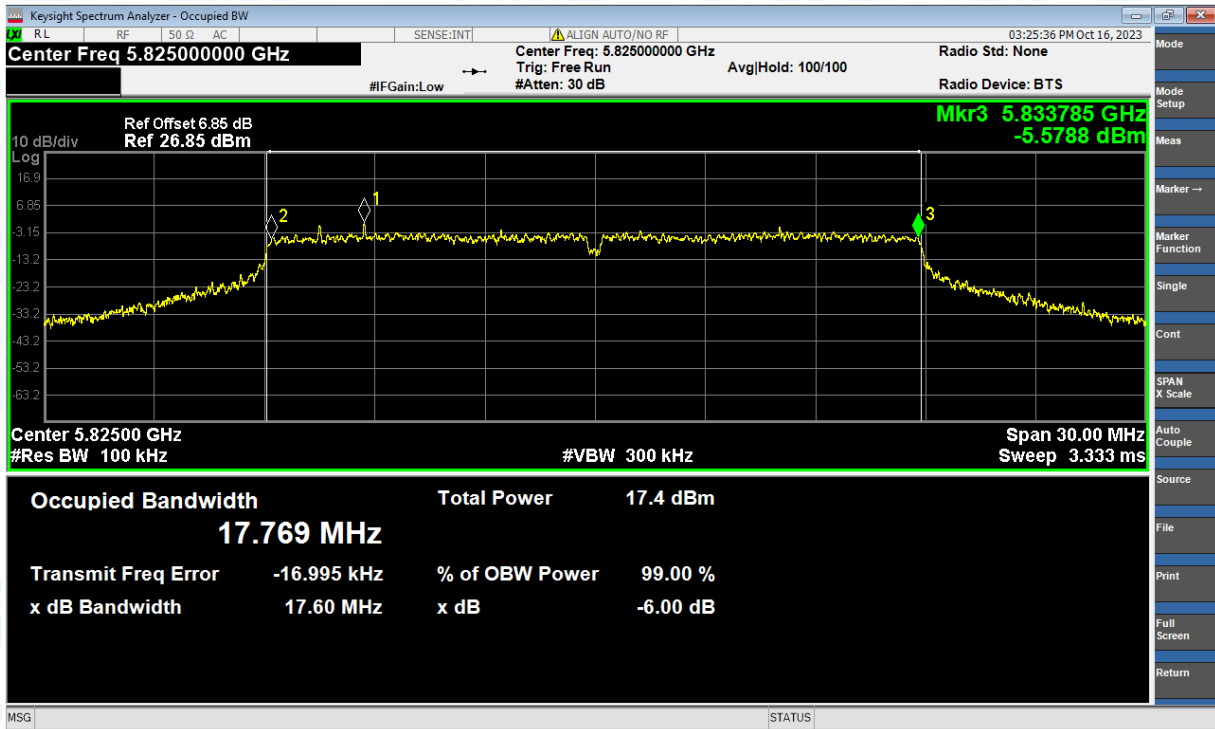
-6dB Bandwidth NVNT n(HT20) 5745MHz Ant1



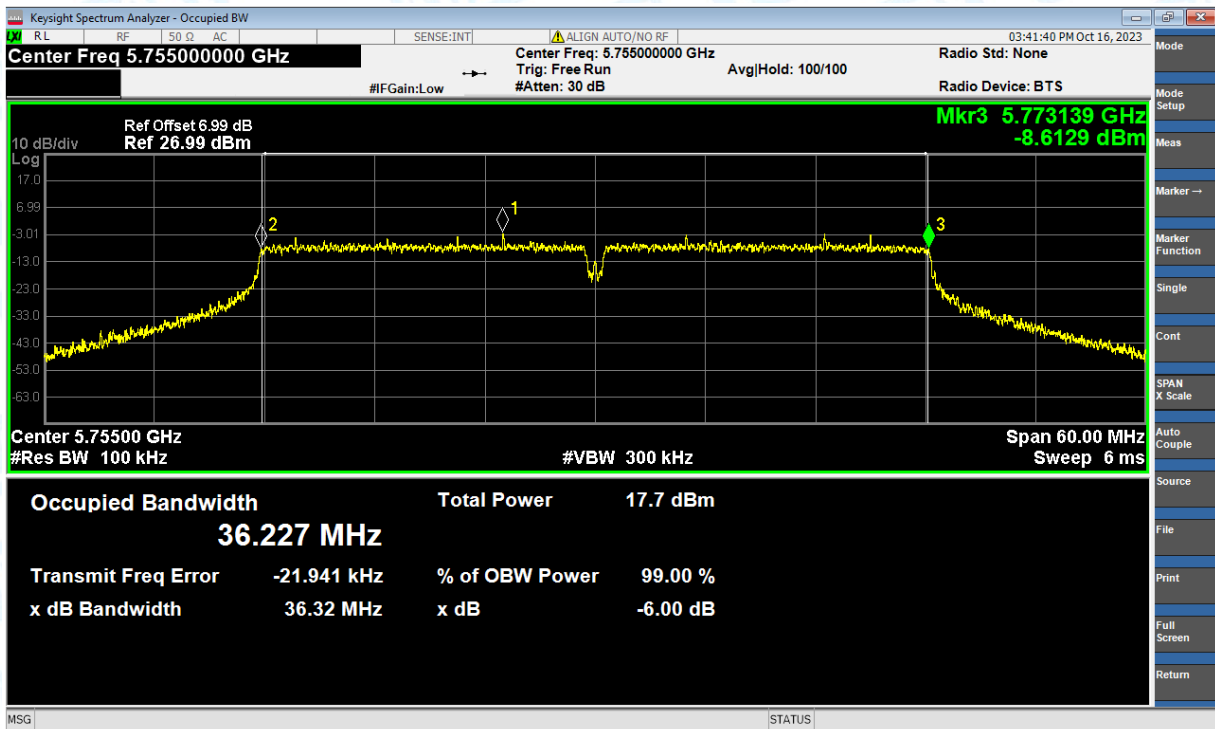
-6dB Bandwidth NVNT n(HT20) 5785MHz Ant1



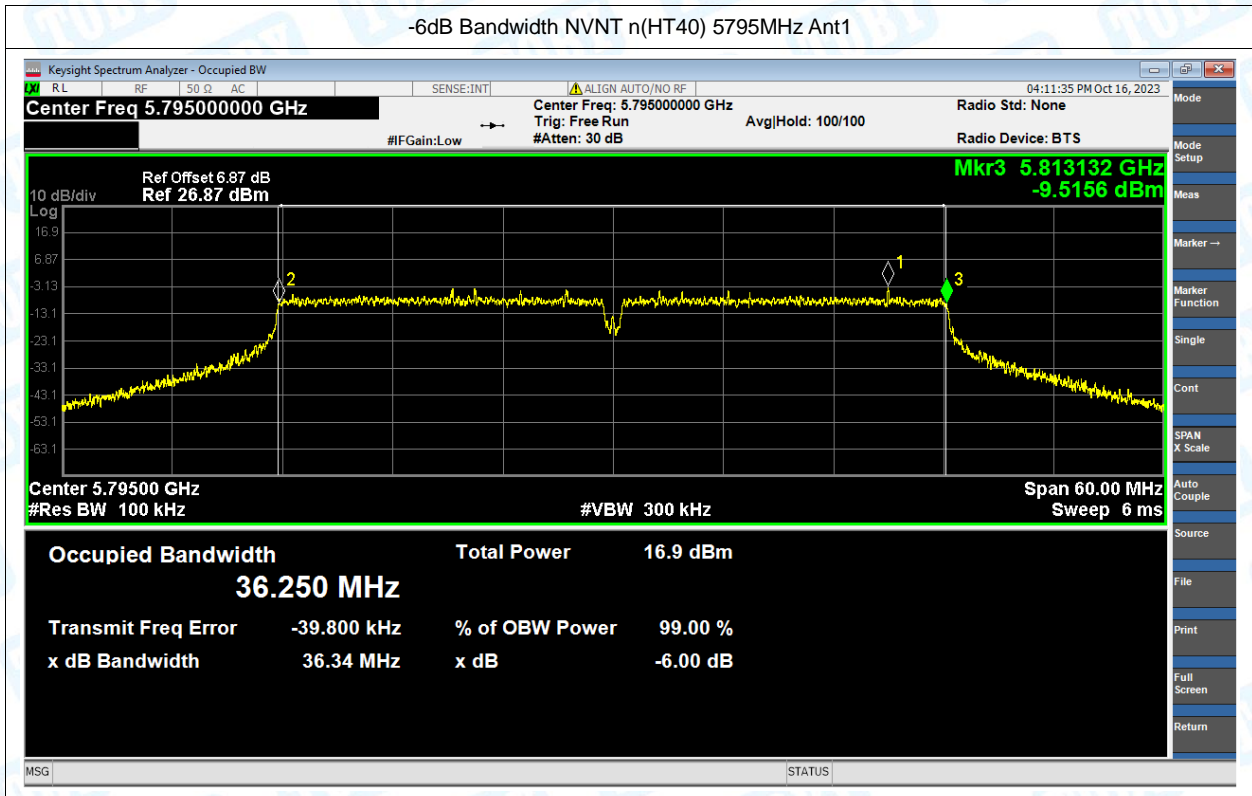
-6dB Bandwidth NVNT n(HT20) 5825MHz Ant1



-6dB Bandwidth NVNT n(HT40) 5755MHz Ant1







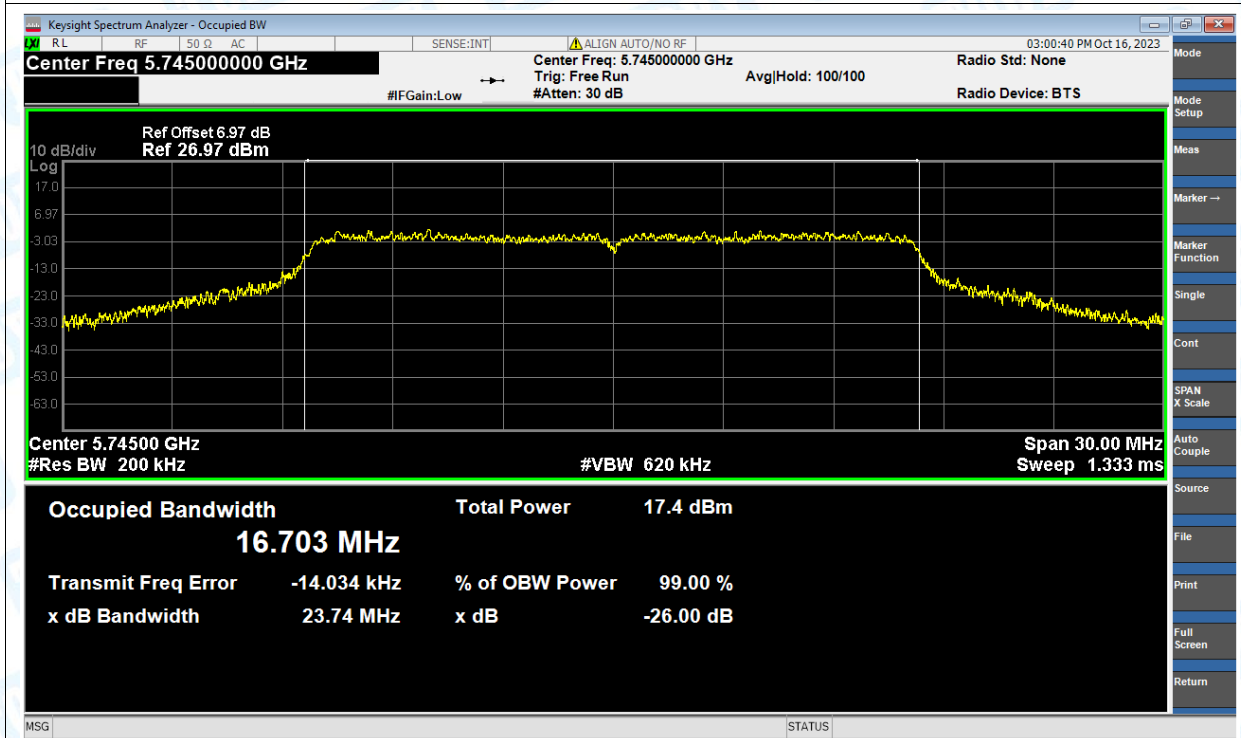
## 4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5745	Ant1	16.703
NVNT	a	5785	Ant1	16.706
NVNT	a	5825	Ant1	16.685
NVNT	ac(VHT20)	5745	Ant1	17.97
NVNT	ac(VHT20)	5785	Ant1	17.979
NVNT	ac(VHT20)	5825	Ant1	17.966
NVNT	ac(VHT40)	5755	Ant1	36.509
NVNT	ac(VHT40)	5795	Ant1	36.625
NVNT	n(HT20)	5745	Ant1	17.937
NVNT	n(HT20)	5785	Ant1	17.933
NVNT	n(HT20)	5825	Ant1	17.949
NVNT	n(HT40)	5755	Ant1	36.461
NVNT	n(HT40)	5795	Ant1	36.557

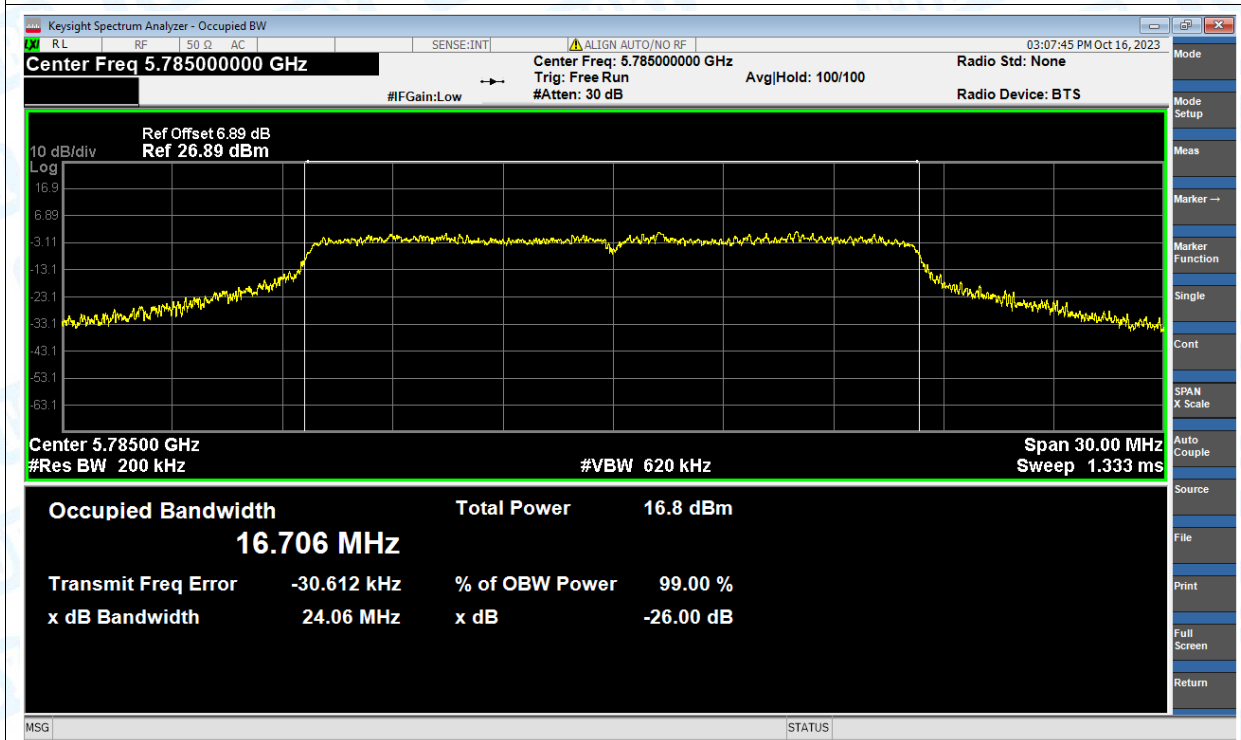


Test Graphs

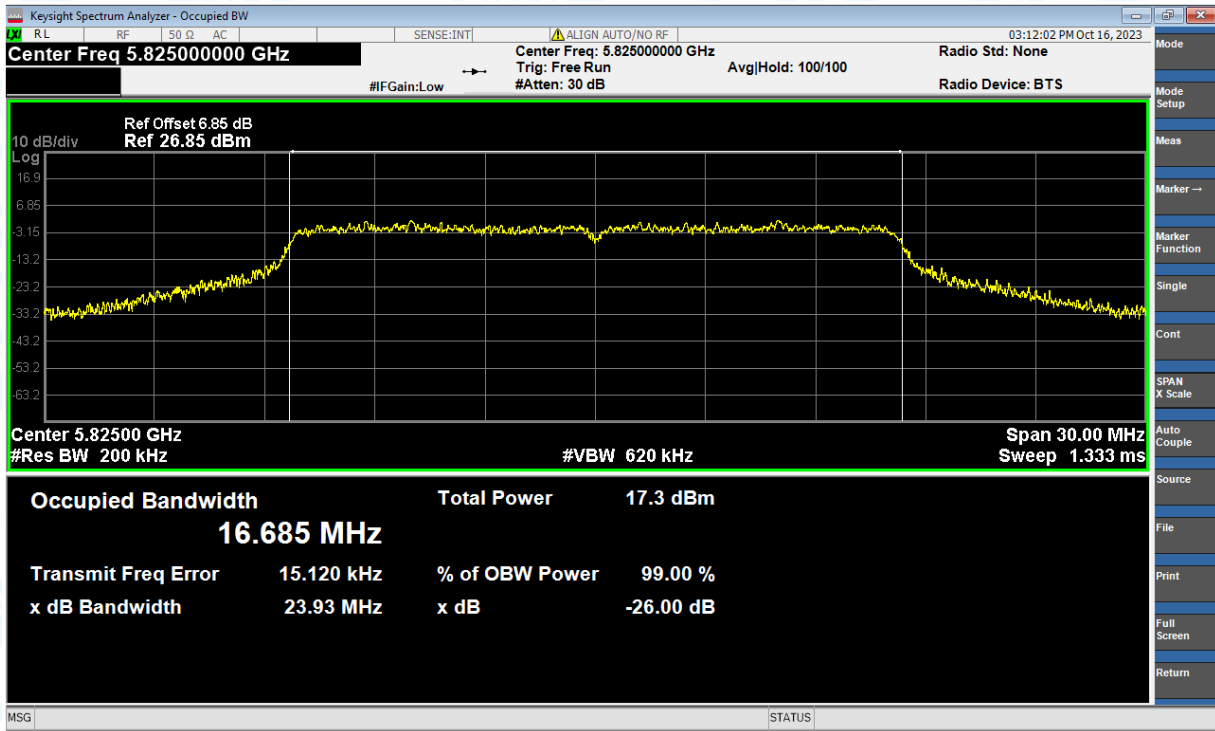
OBV NVNT a 5745MHz Ant1



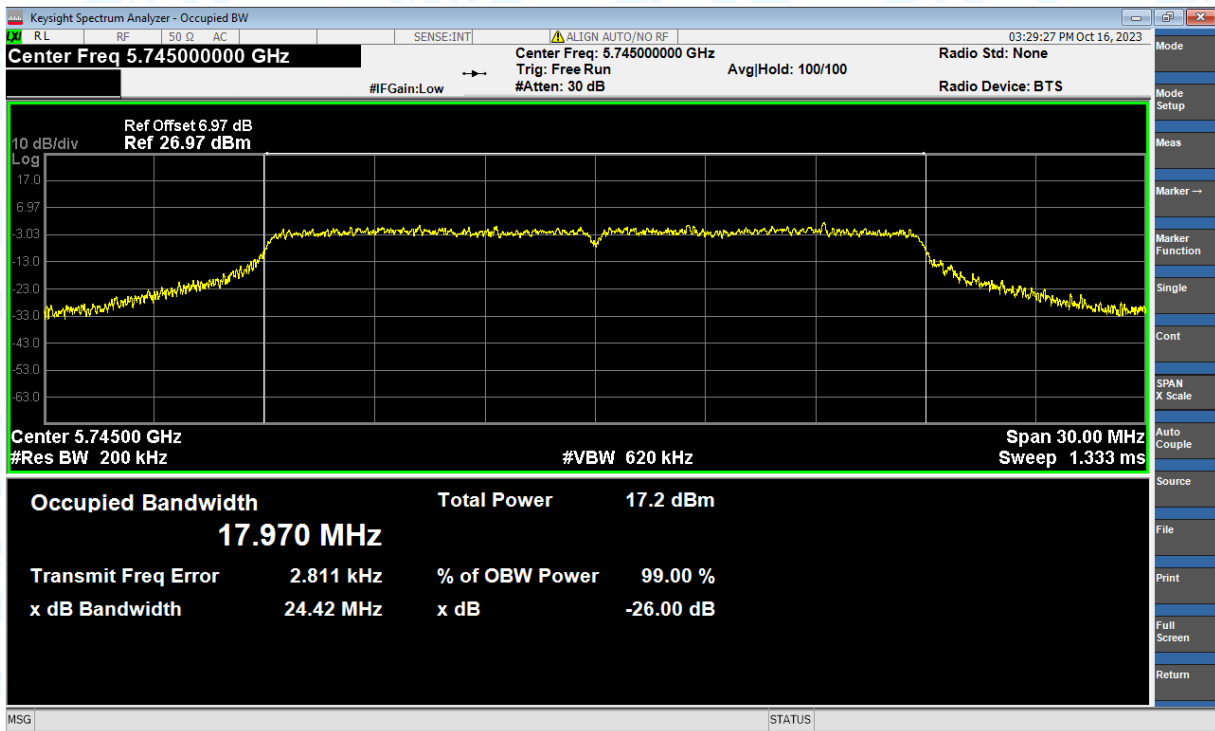
OBV NVNT a 5785MHz Ant1



OBW NVNT a 5825MHz Ant1

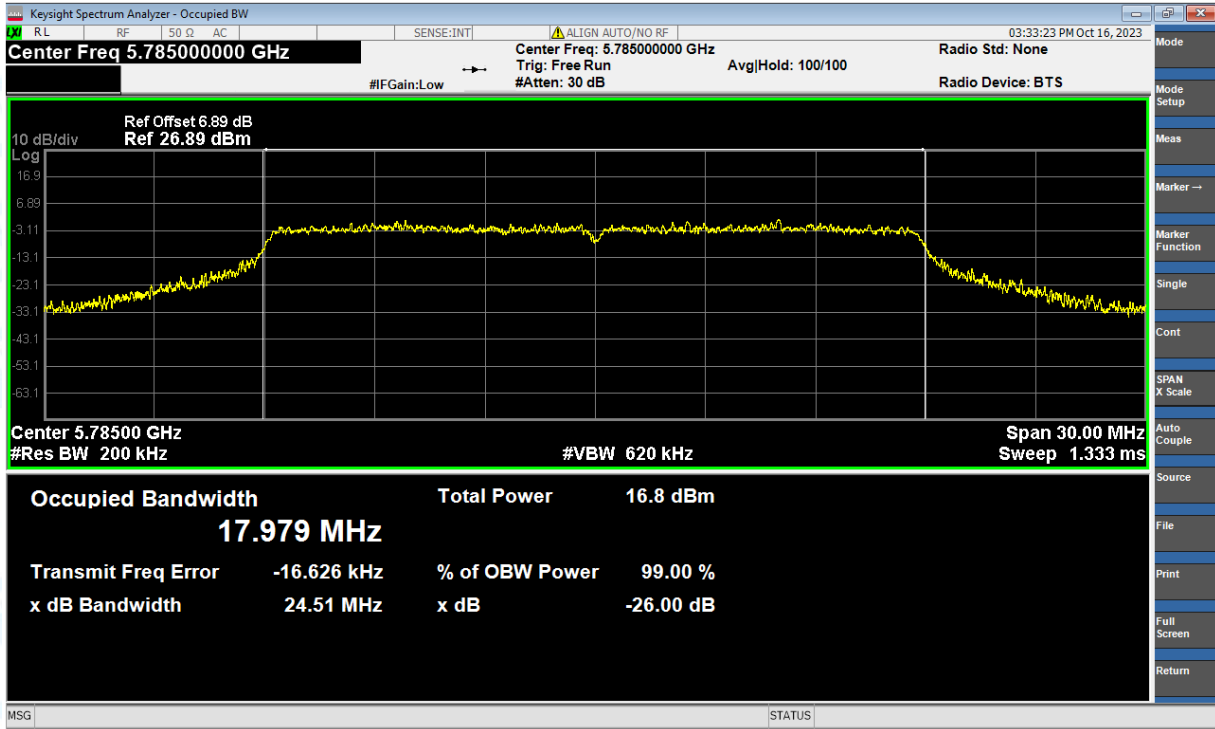


OBW NVNT ac(VHT20) 5745MHz Ant1

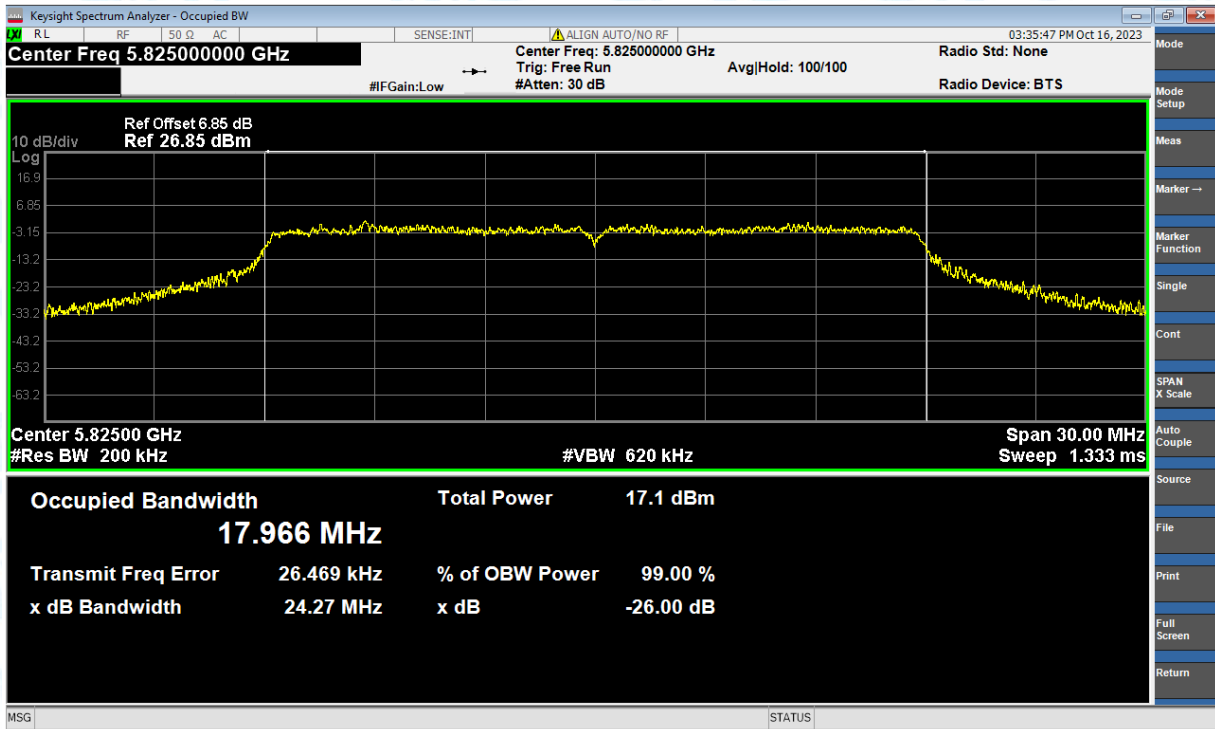




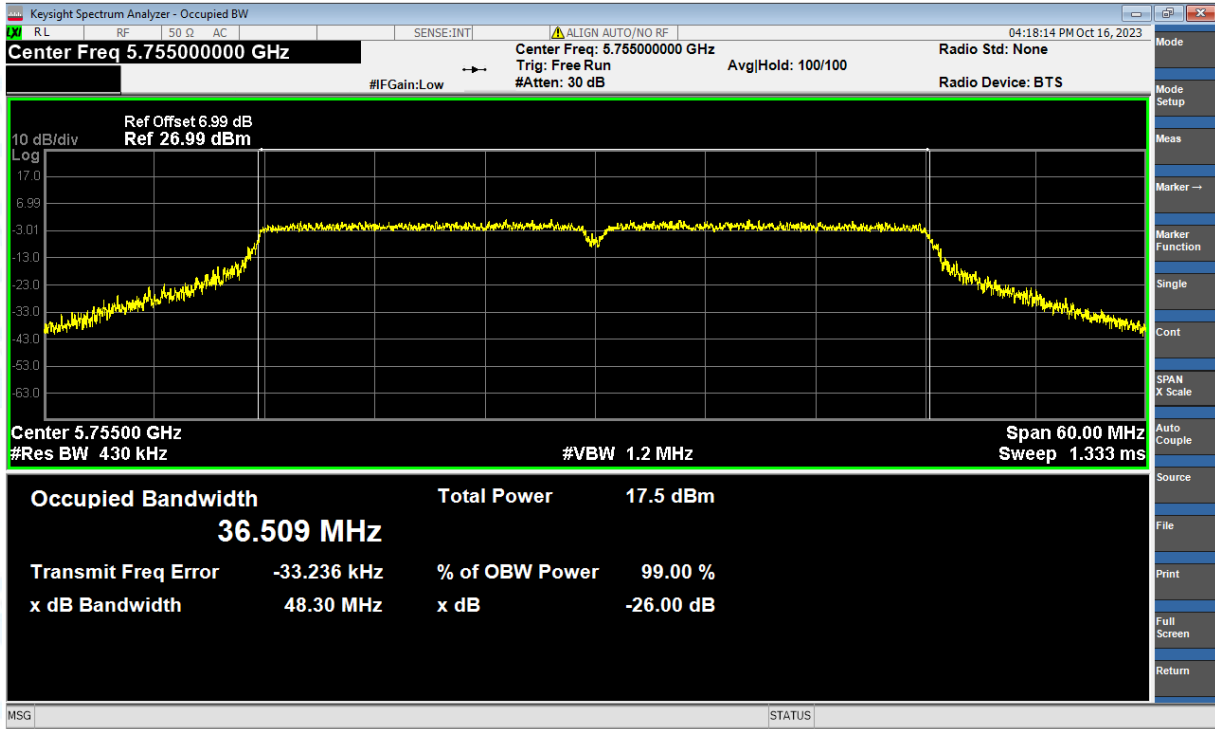
OBW NVNT ac(VHT20) 5785MHz Ant1



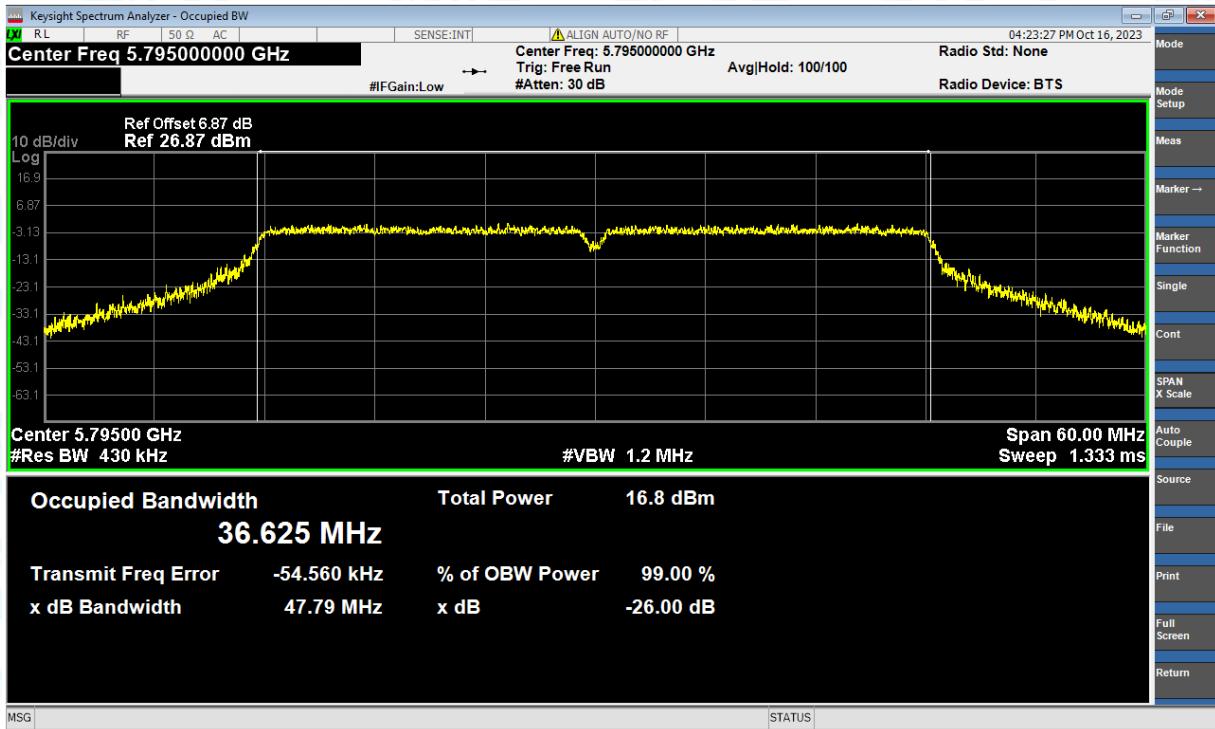
OBW NVNT ac(VHT20) 5825MHz Ant1



OBW NVNT ac(VHT40) 5755MHz Ant1

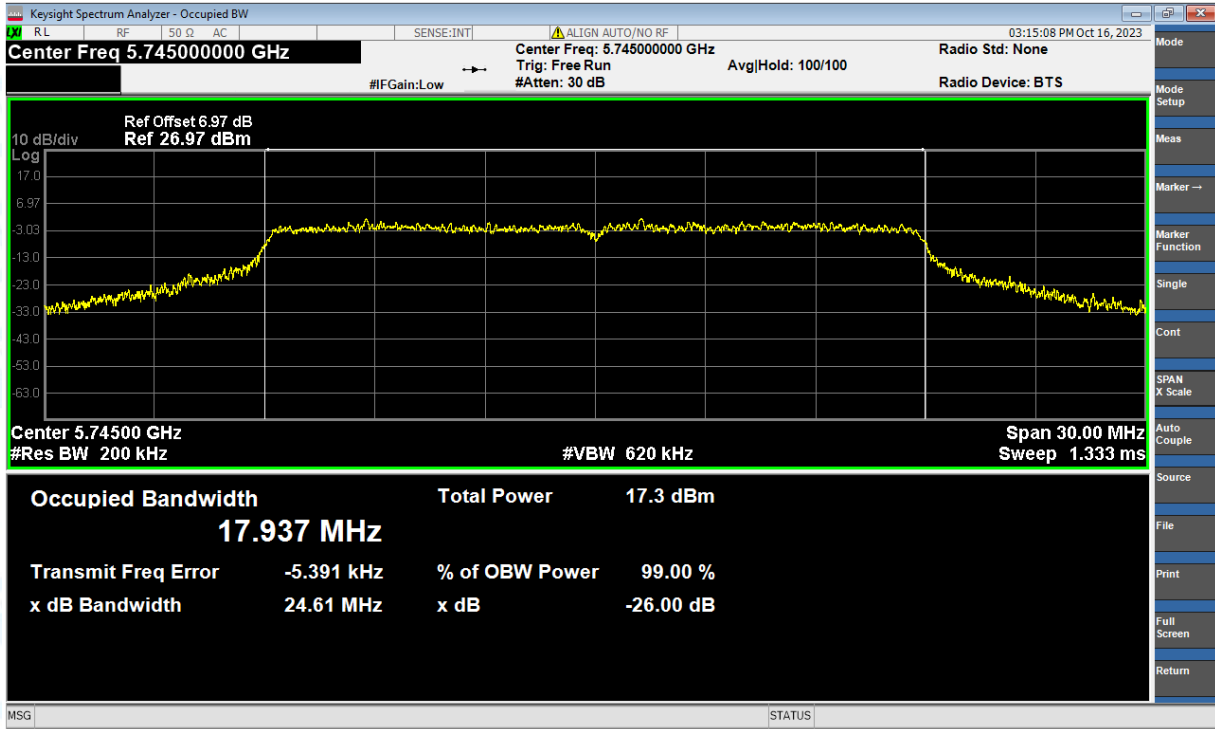


OBW NVNT ac(VHT40) 5795MHz Ant1

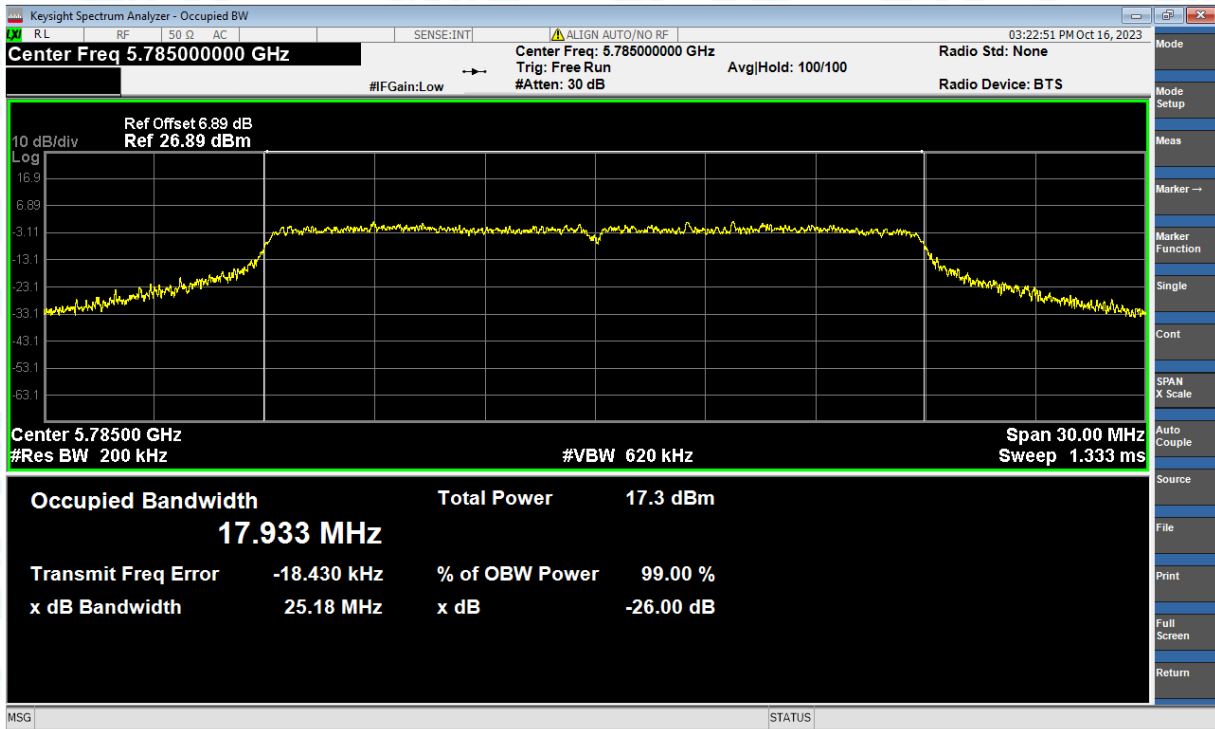




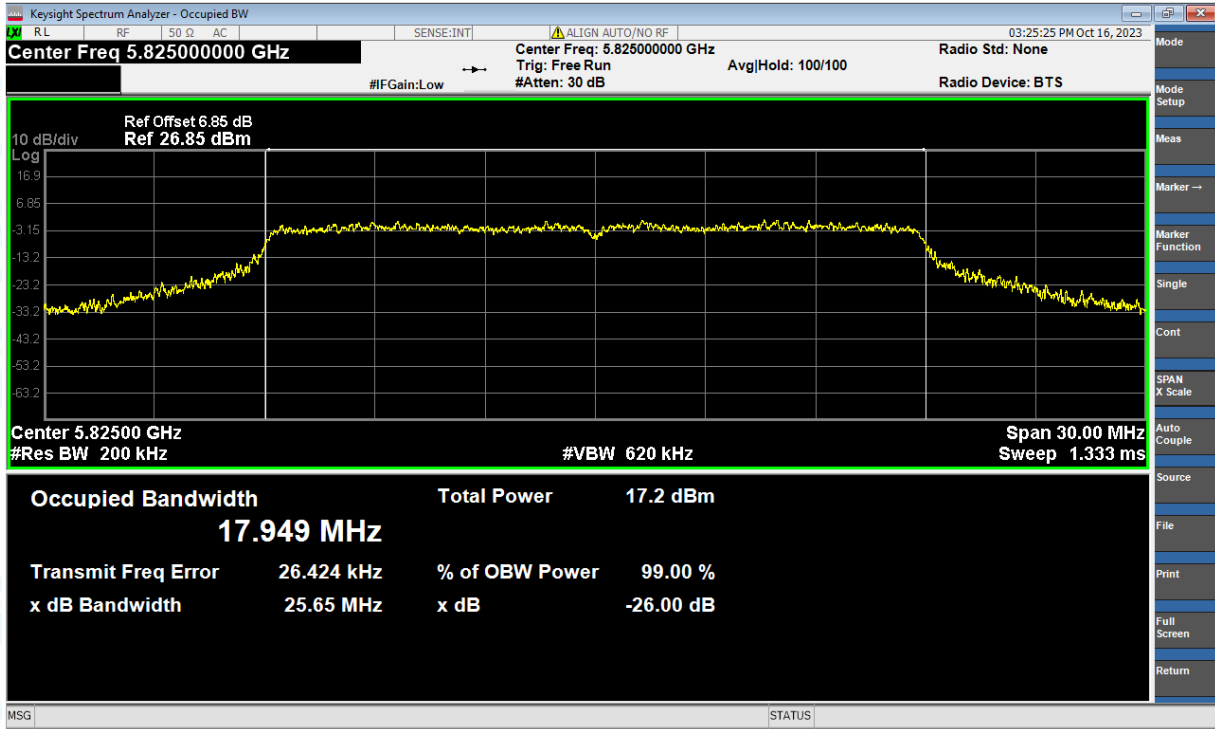
OBW NVNT n(HT20) 5745MHz Ant1



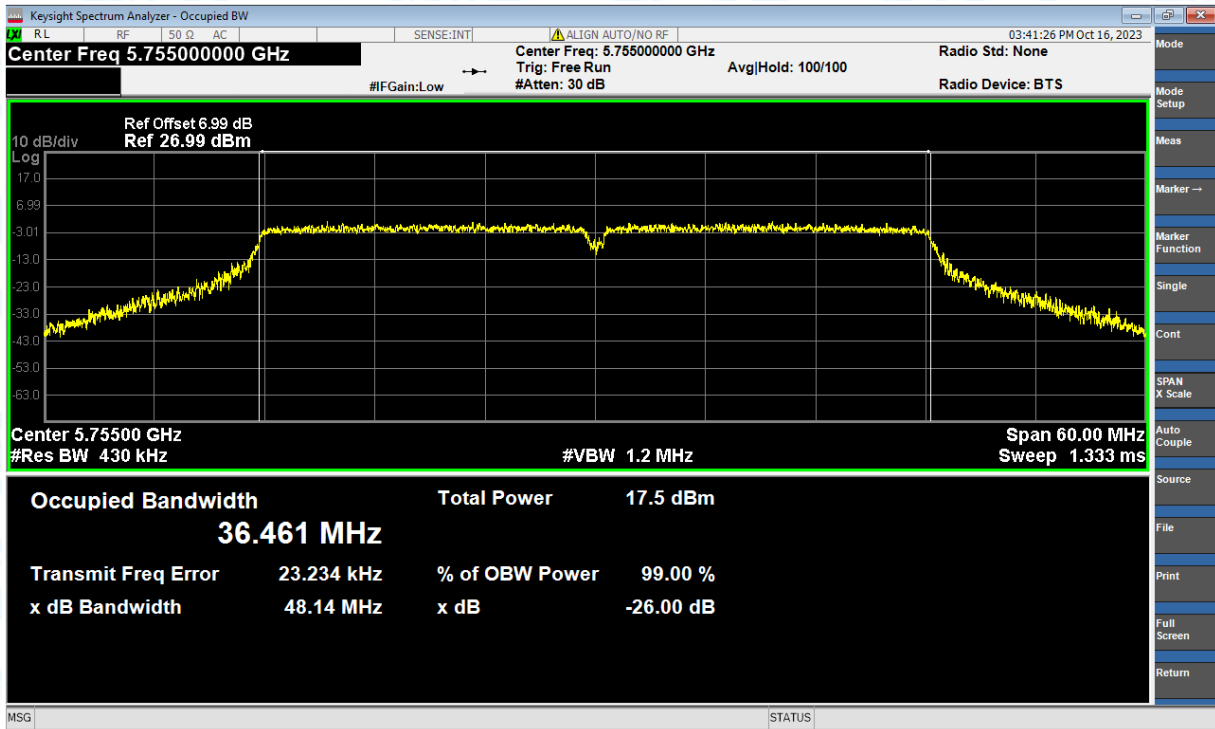
OBW NVNT n(HT20) 5785MHz Ant1



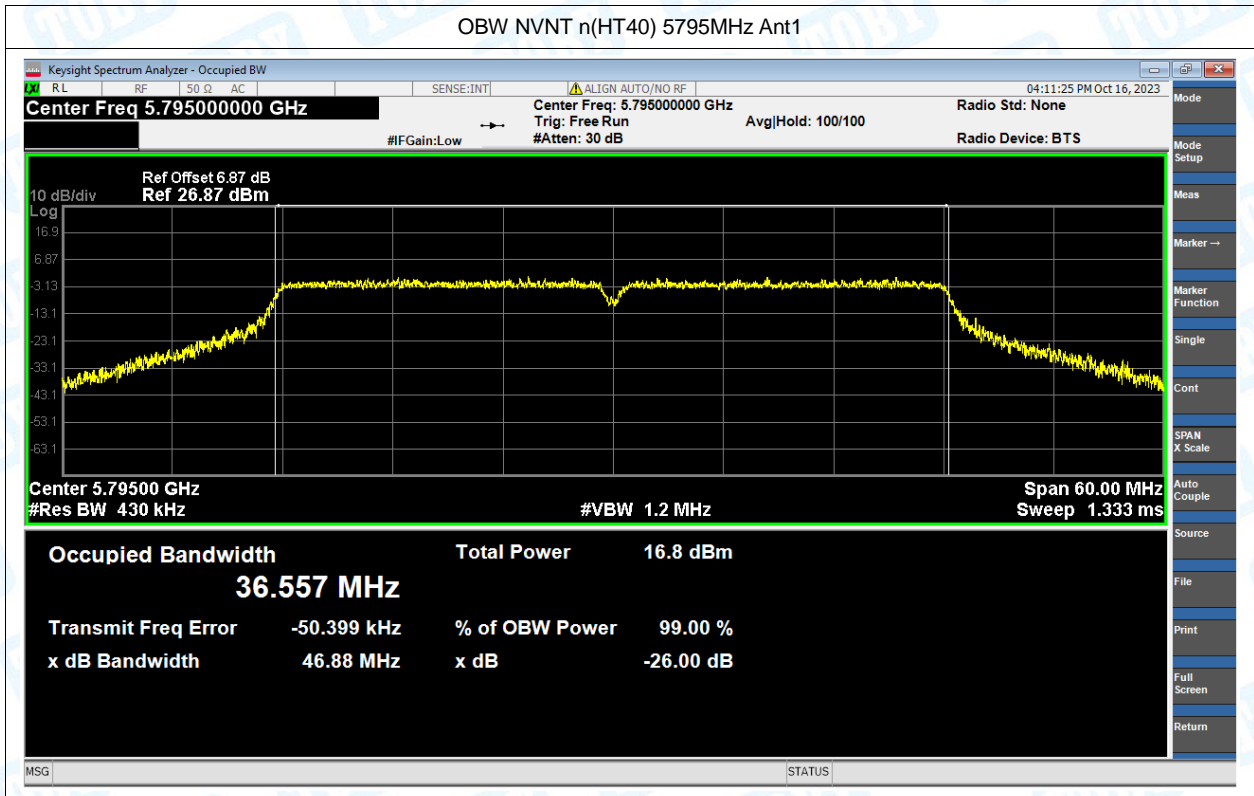
OBW NVNT n(HT20) 5825MHz Ant1



OBW NVNT n(HT40) 5755MHz Ant1







## 5. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/500kHz)	Limit (dBm/500kHz)	Verdict
NVNT	a	5745	Ant1	-2.03	30	Pass
NVNT	a	5785	Ant1	-2.592	30	Pass
NVNT	a	5825	Ant1	-1.977	30	Pass
NVNT	ac(VHT20)	5745	Ant1	-2.134	30	Pass
NVNT	ac(VHT20)	5785	Ant1	-2.581	30	Pass
NVNT	ac(VHT20)	5825	Ant1	-2.086	30	Pass
NVNT	ac(VHT40)	5755	Ant1	-5.434	30	Pass
NVNT	ac(VHT40)	5795	Ant1	-6.28	30	Pass
NVNT	n(HT20)	5745	Ant1	-1.946	30	Pass
NVNT	n(HT20)	5785	Ant1	-2.107	30	Pass
NVNT	n(HT20)	5825	Ant1	-1.951	30	Pass
NVNT	n(HT40)	5755	Ant1	-5.319	30	Pass
NVNT	n(HT40)	5795	Ant1	-6.272	30	Pass

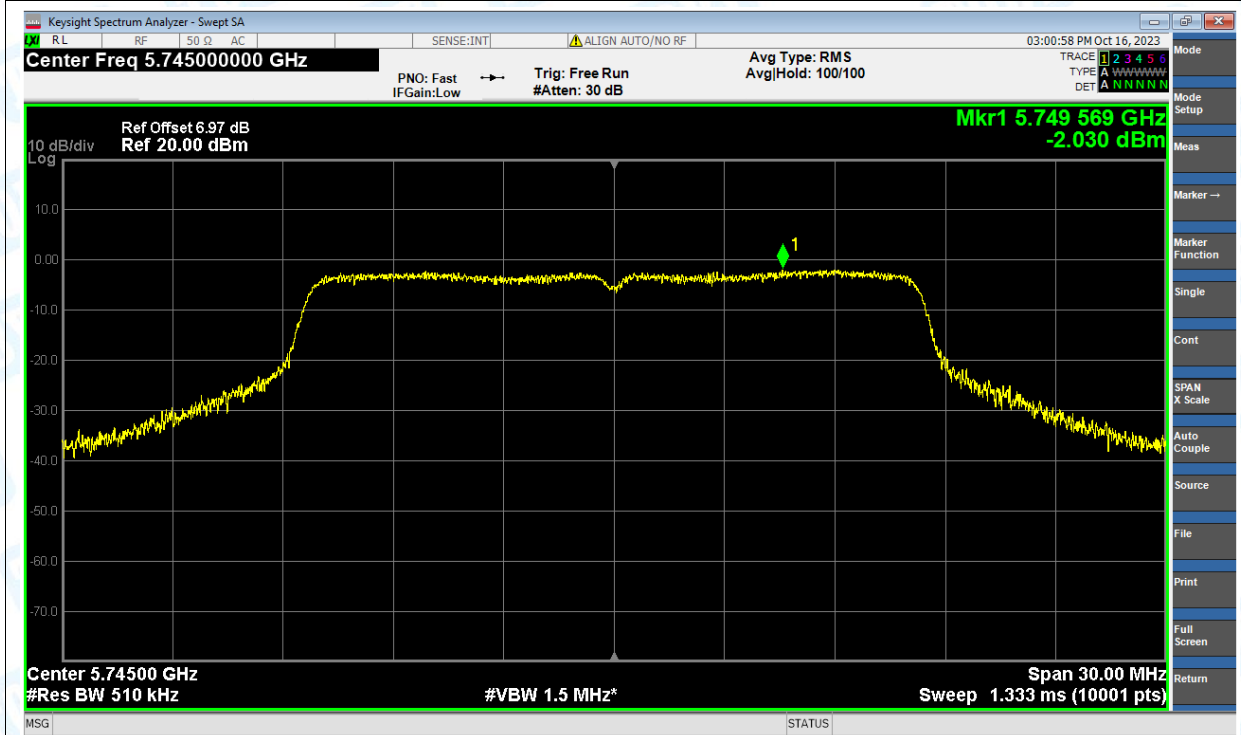
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

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

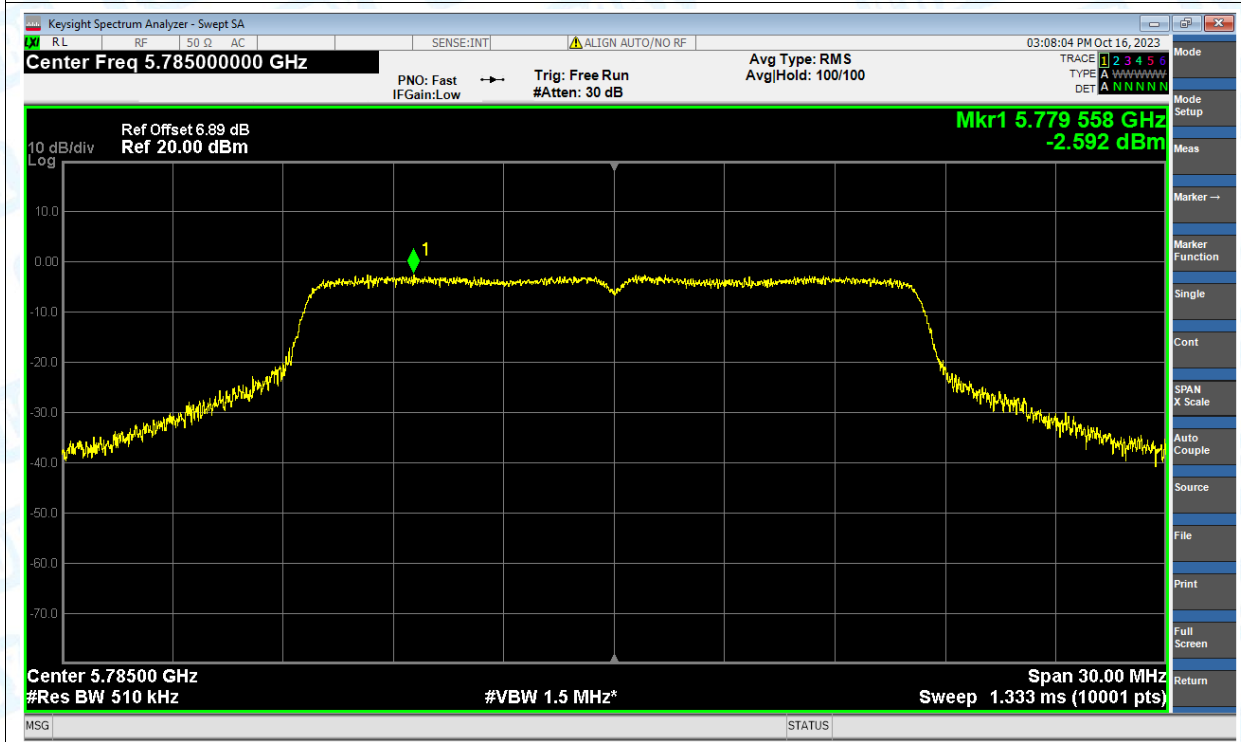


Test Graphs

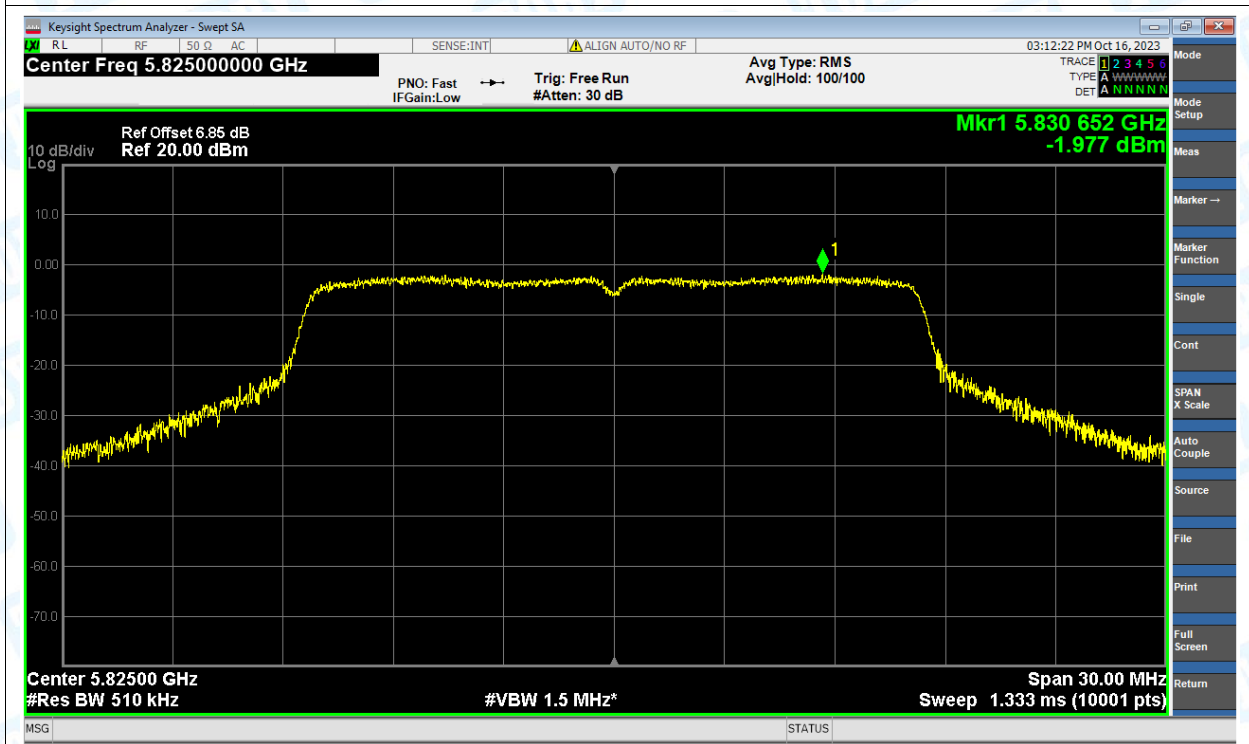
PSD NVNT a 5745MHz Ant1



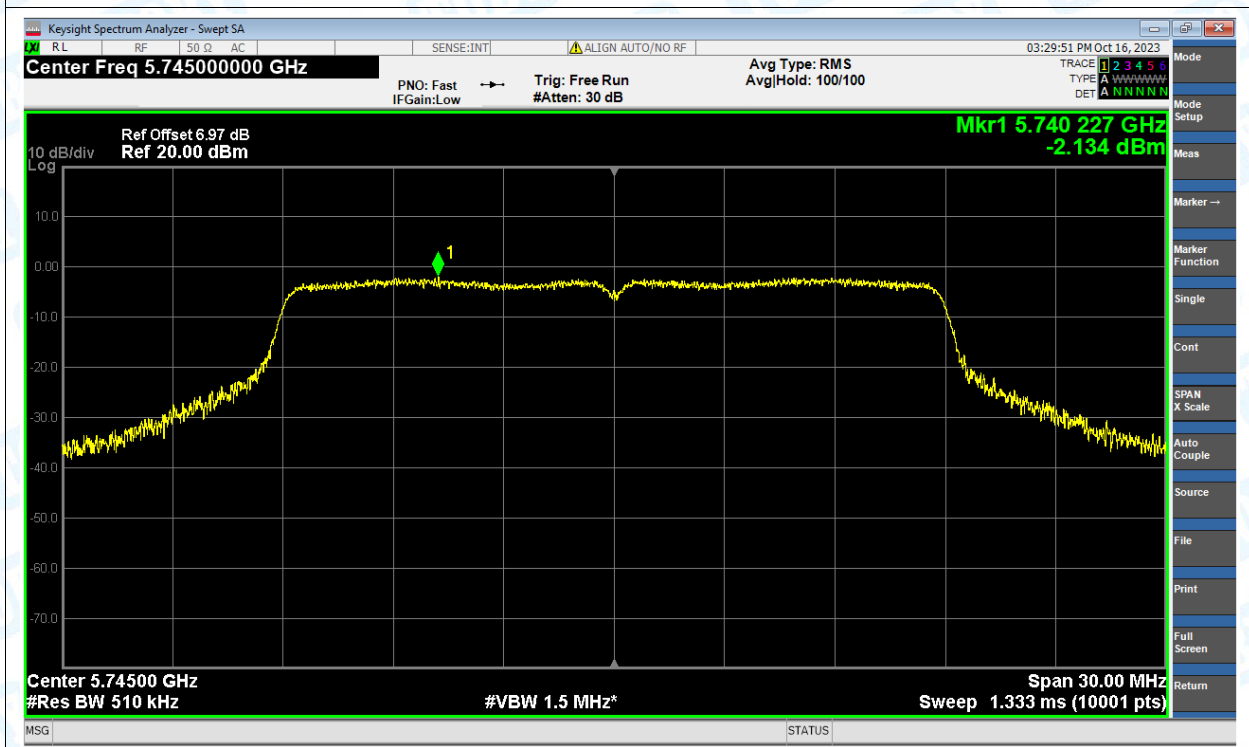
PSD NVNT a 5785MHz Ant1



PSD NVNT a 5825MHz Ant1

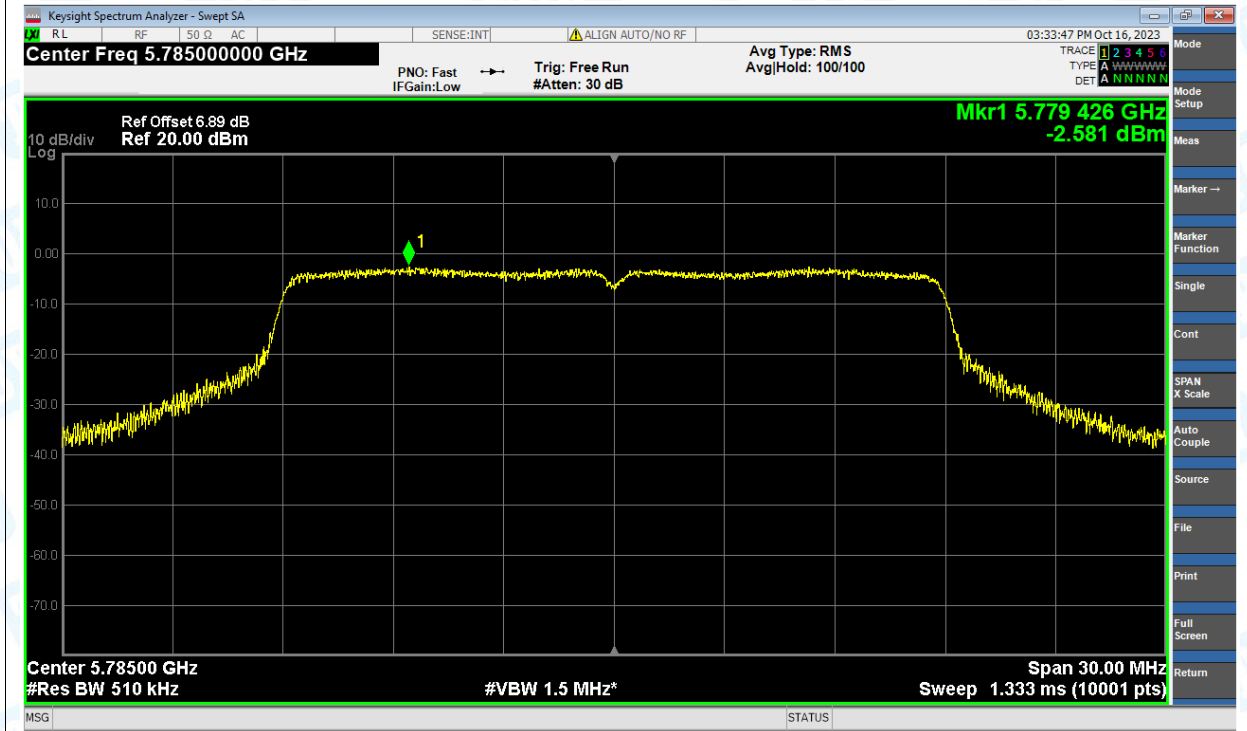


PSD NVNT ac(VHT20) 5745MHz Ant1

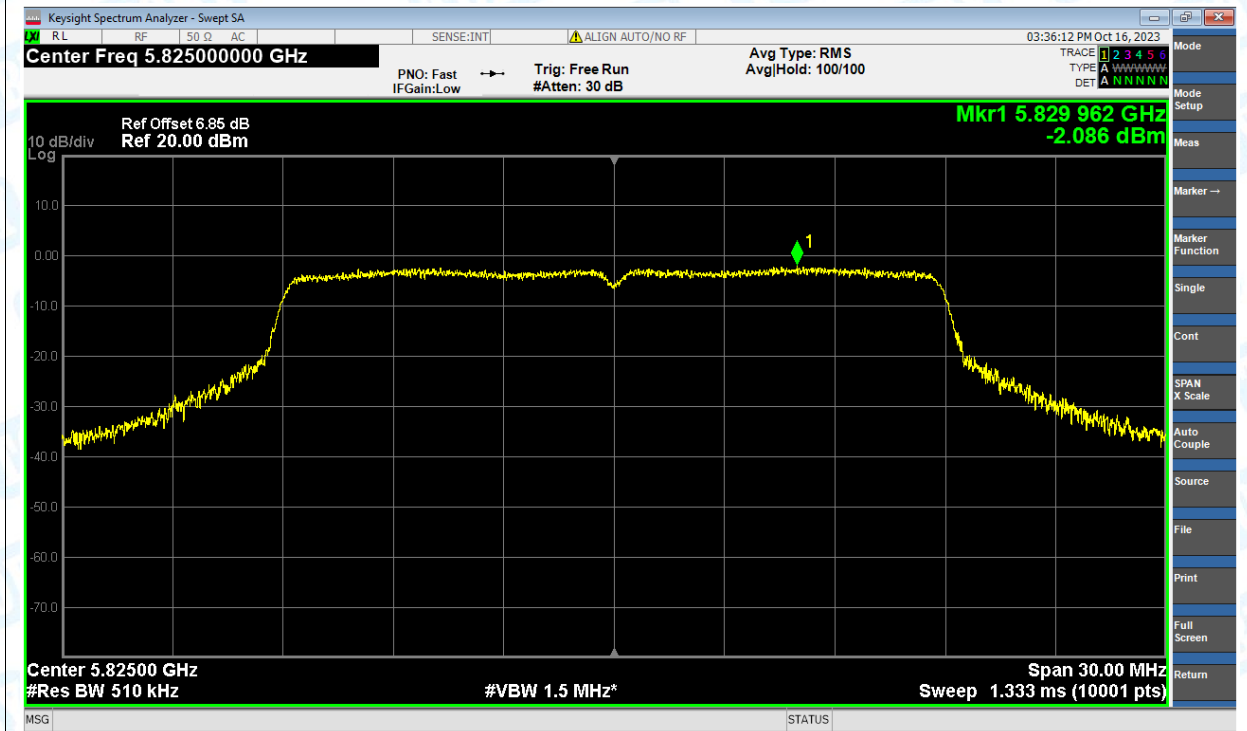


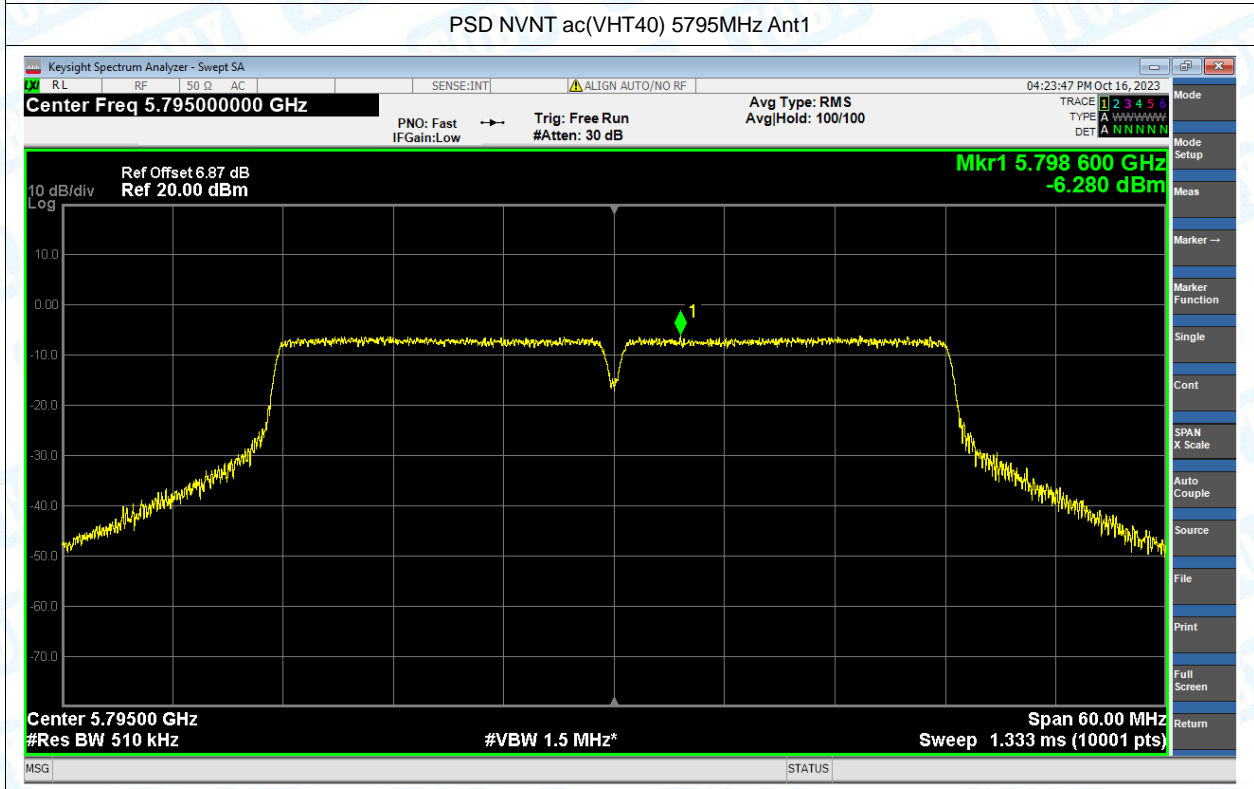
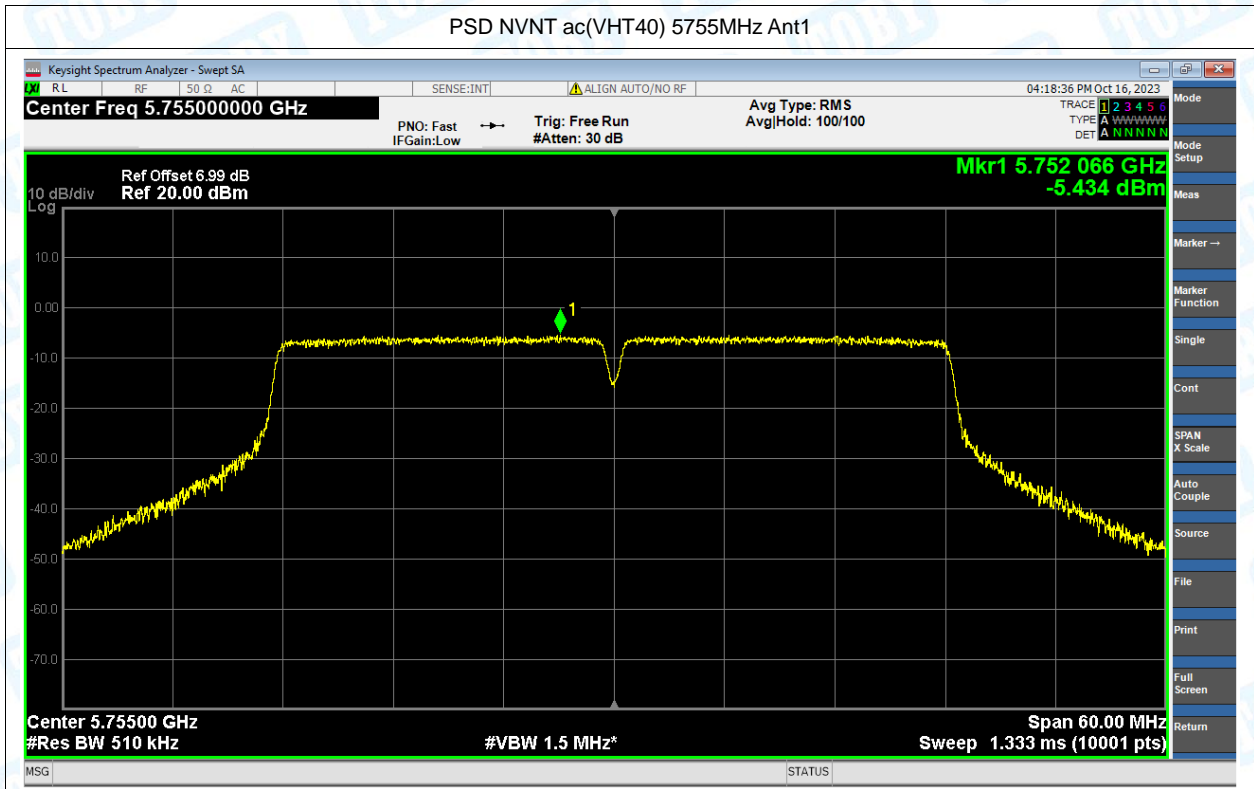


PSD NVNT ac(VHT20) 5785MHz Ant1



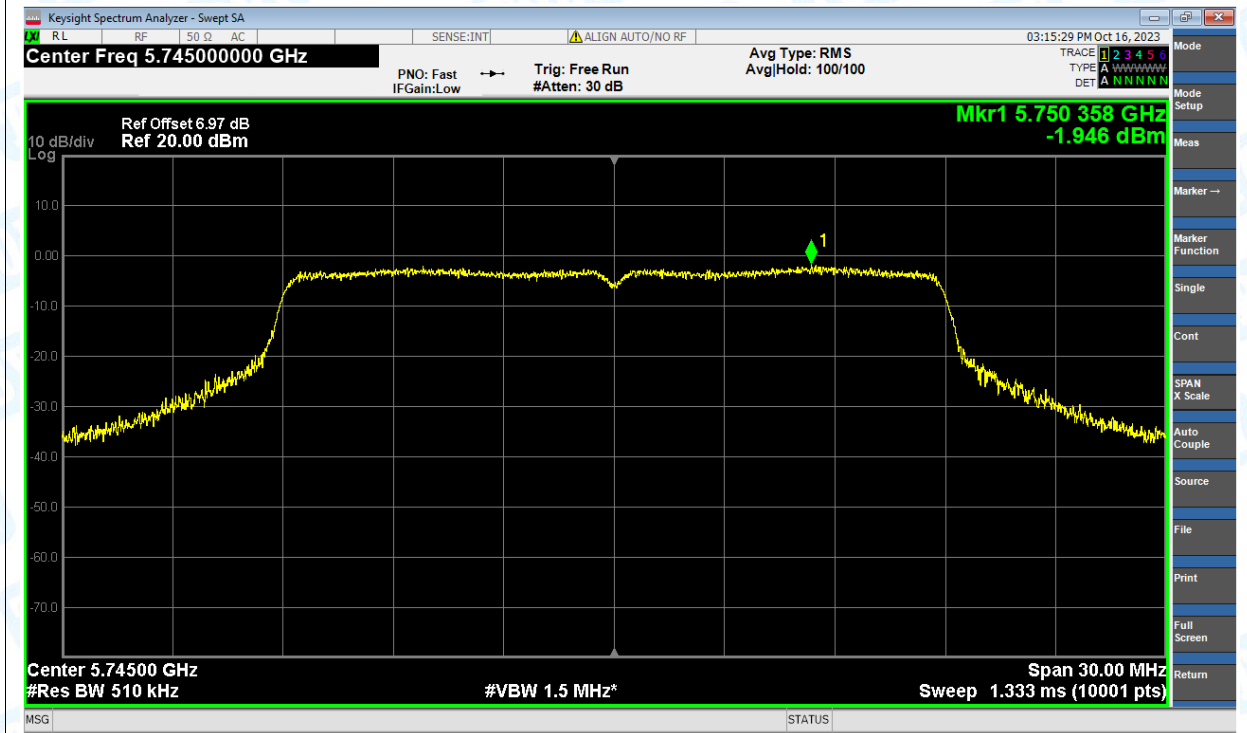
PSD NVNT ac(VHT20) 5825MHz Ant1



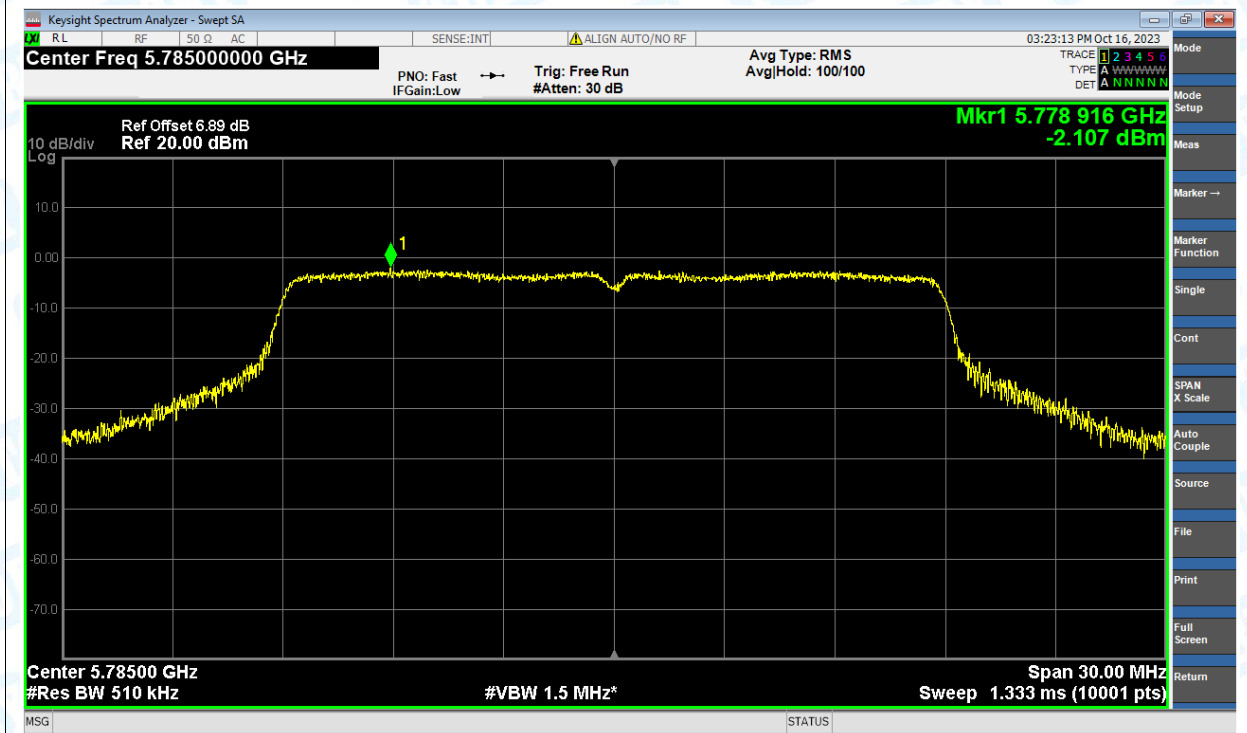




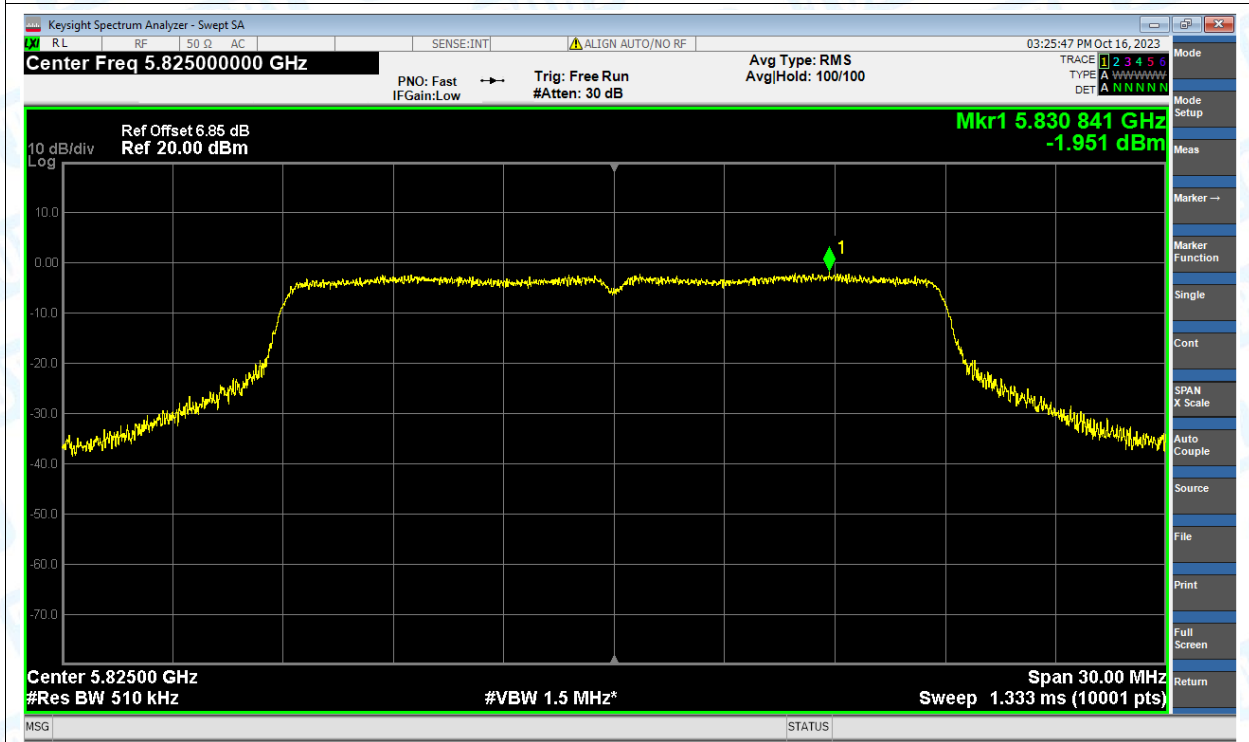
PSD NVNT n(HT20) 5745MHz Ant1



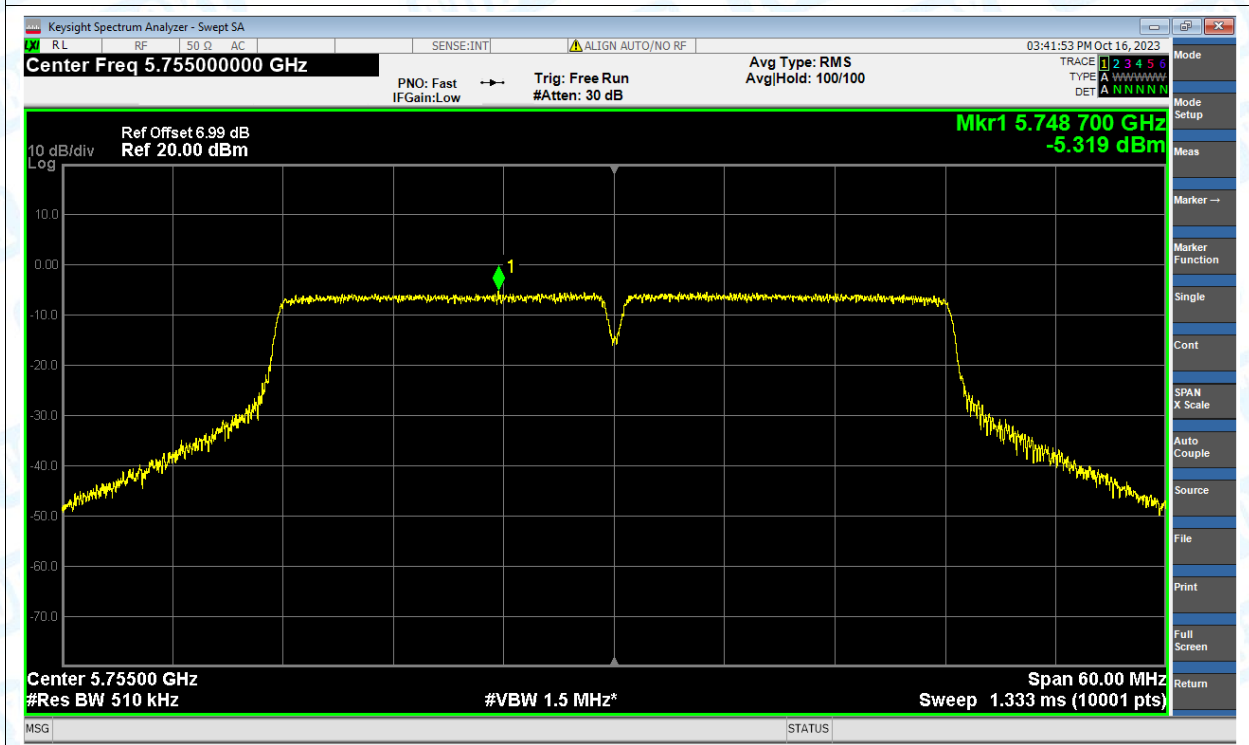
PSD NVNT n(HT20) 5785MHz Ant1



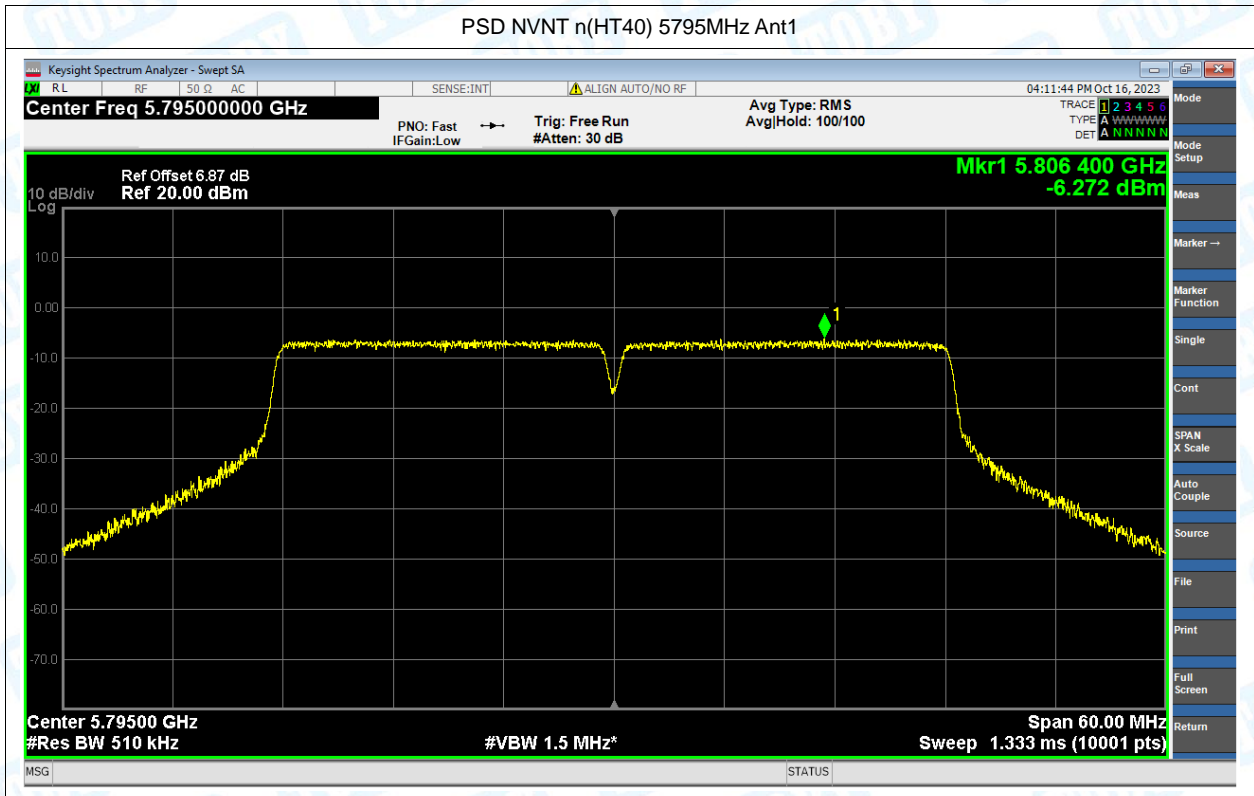
PSD NVNT n(HT20) 5825MHz Ant1



PSD NVNT n(HT40) 5755MHz Ant1







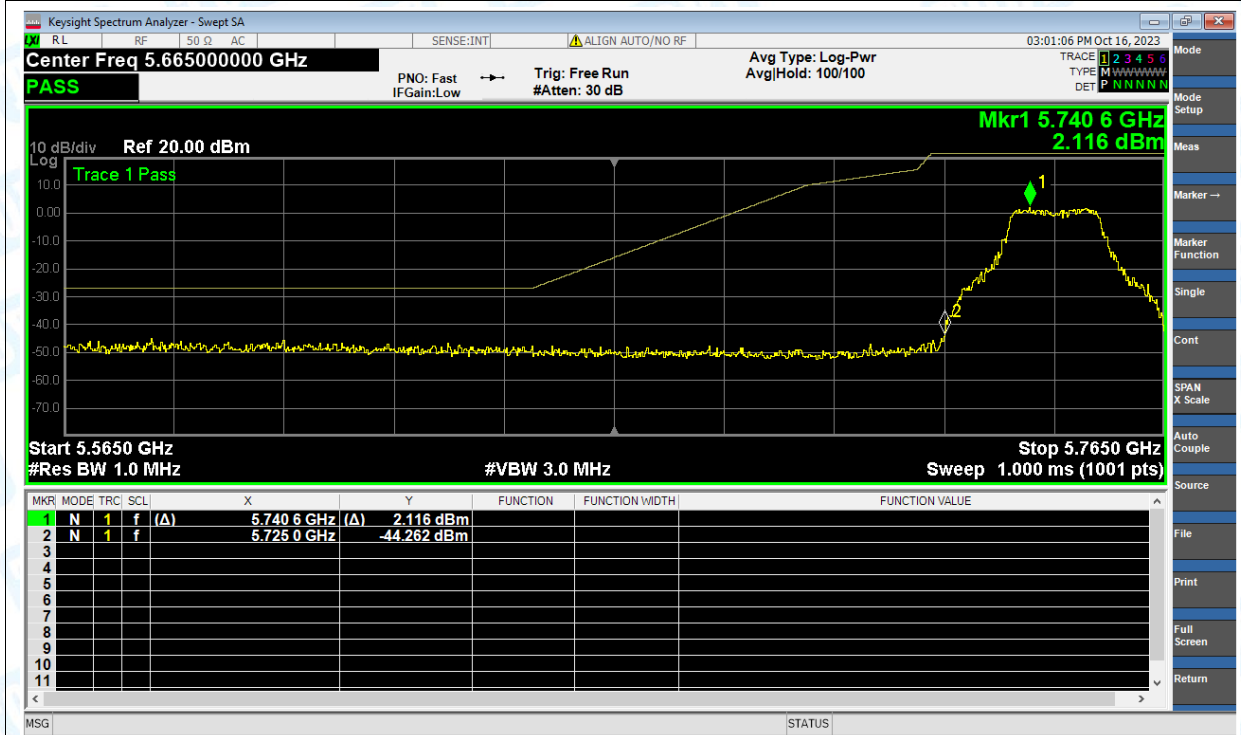
## 6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Verdict
NVNT	a	5745	Ant1	-44.26	Pass
NVNT	a	5825	Ant1	-40.62	Pass
NVNT	ac(VHT20)	5745	Ant1	-44.36	Pass
NVNT	ac(VHT20)	5825	Ant1	-43.50	Pass
NVNT	ac(VHT40)	5755	Ant1	-38.57	Pass
NVNT	ac(VHT40)	5795	Ant1	-45.43	Pass
NVNT	n(HT20)	5745	Ant1	-40.40	Pass
NVNT	n(HT20)	5825	Ant1	-45.14	Pass
NVNT	n(HT40)	5755	Ant1	-36.75	Pass
NVNT	n(HT40)	5795	Ant1	-46.11	Pass

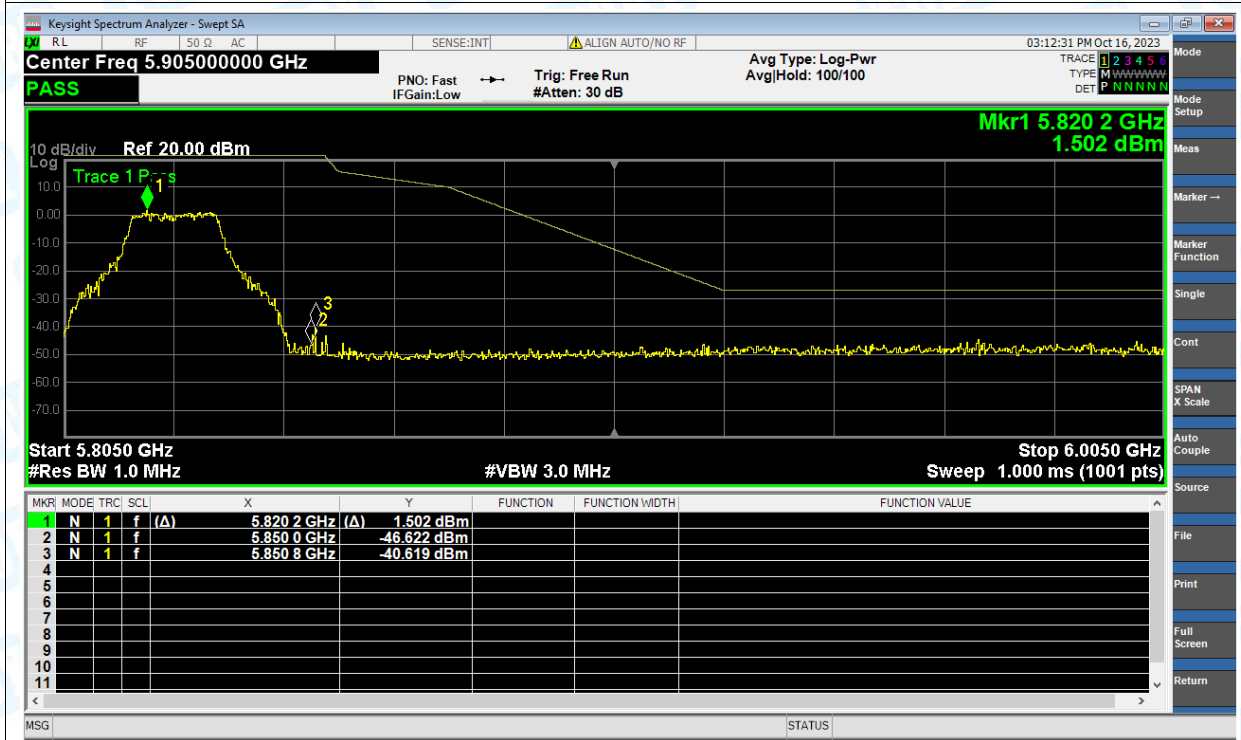


Test Graphs

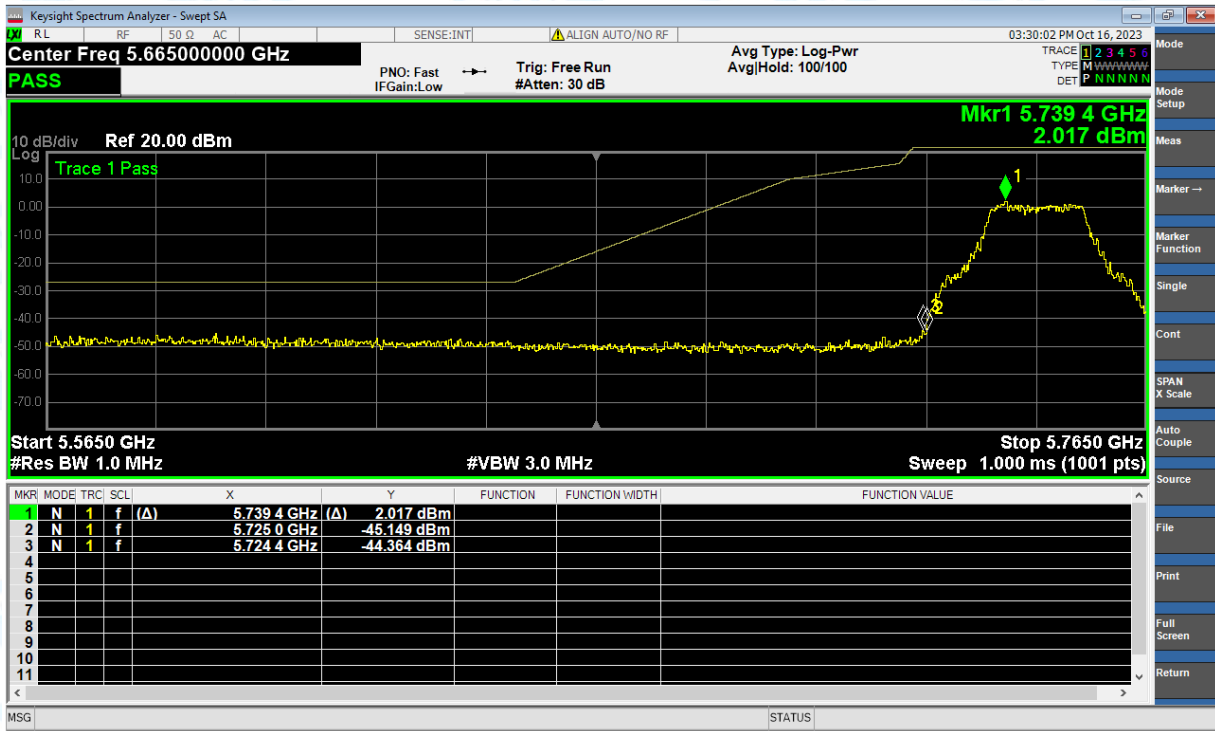
Band Edge NVNT a 5745MHz Low Ant1



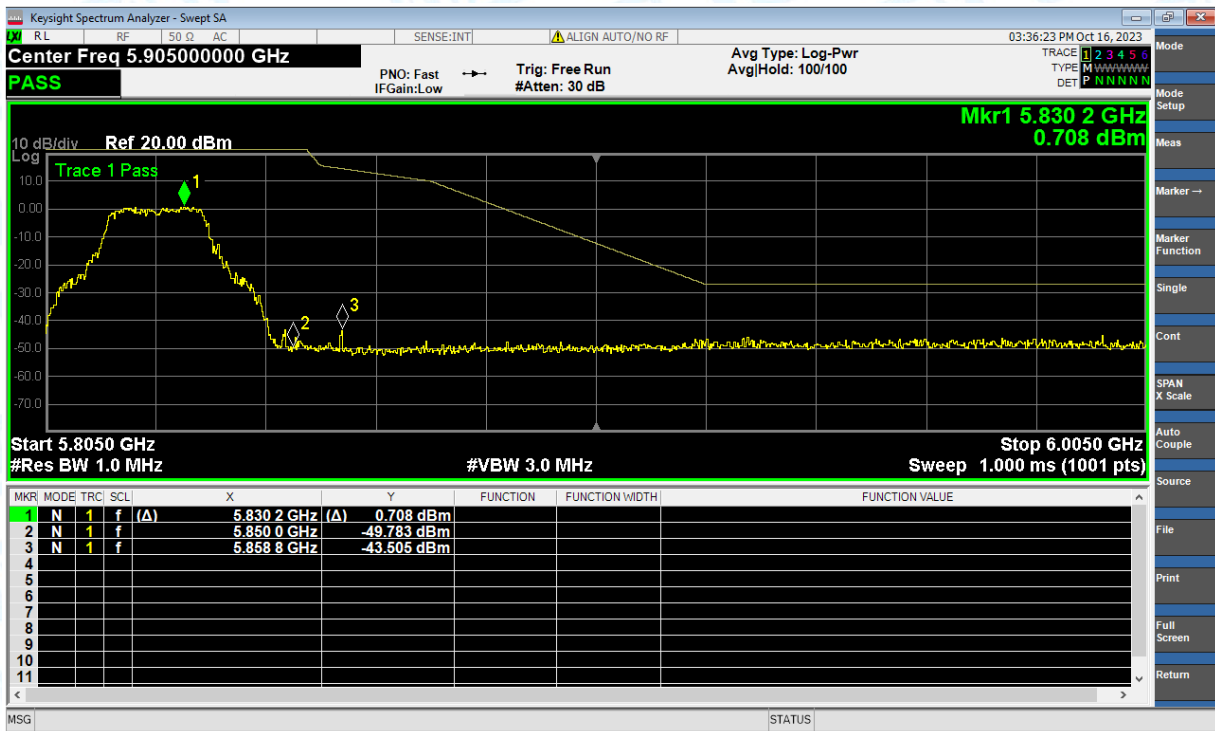
Band Edge NVNT a 5825MHz High Ant1



Band Edge NVNT ac(VHT20) 5745MHz Low Ant1

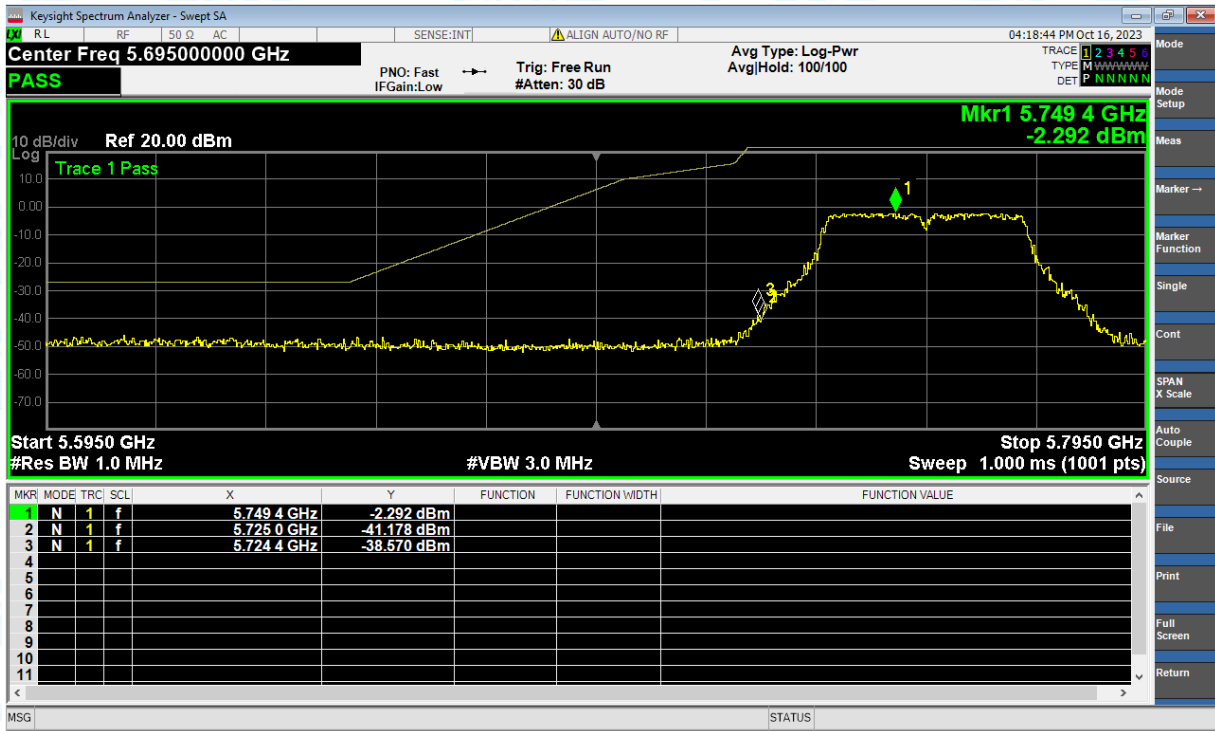


Band Edge NVNT ac(VHT20) 5825MHz High Ant1





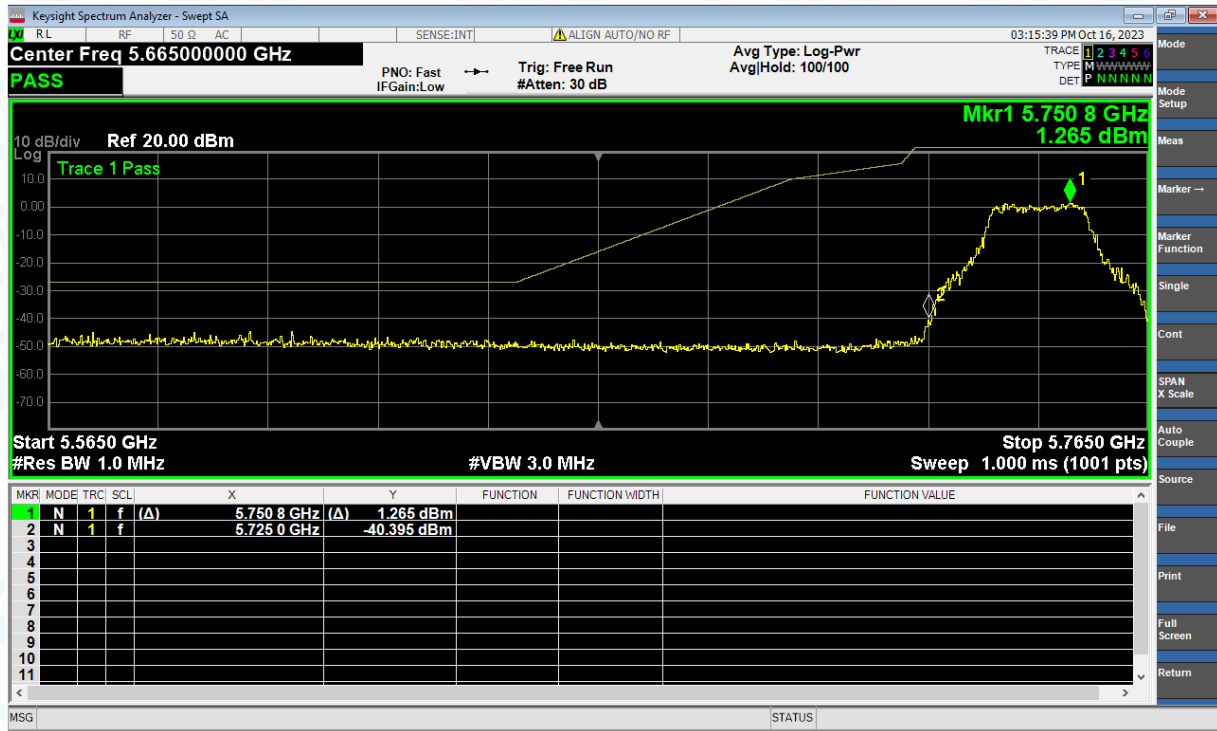
Band Edge NVNT ac(VHT40) 5755MHz Low Ant1



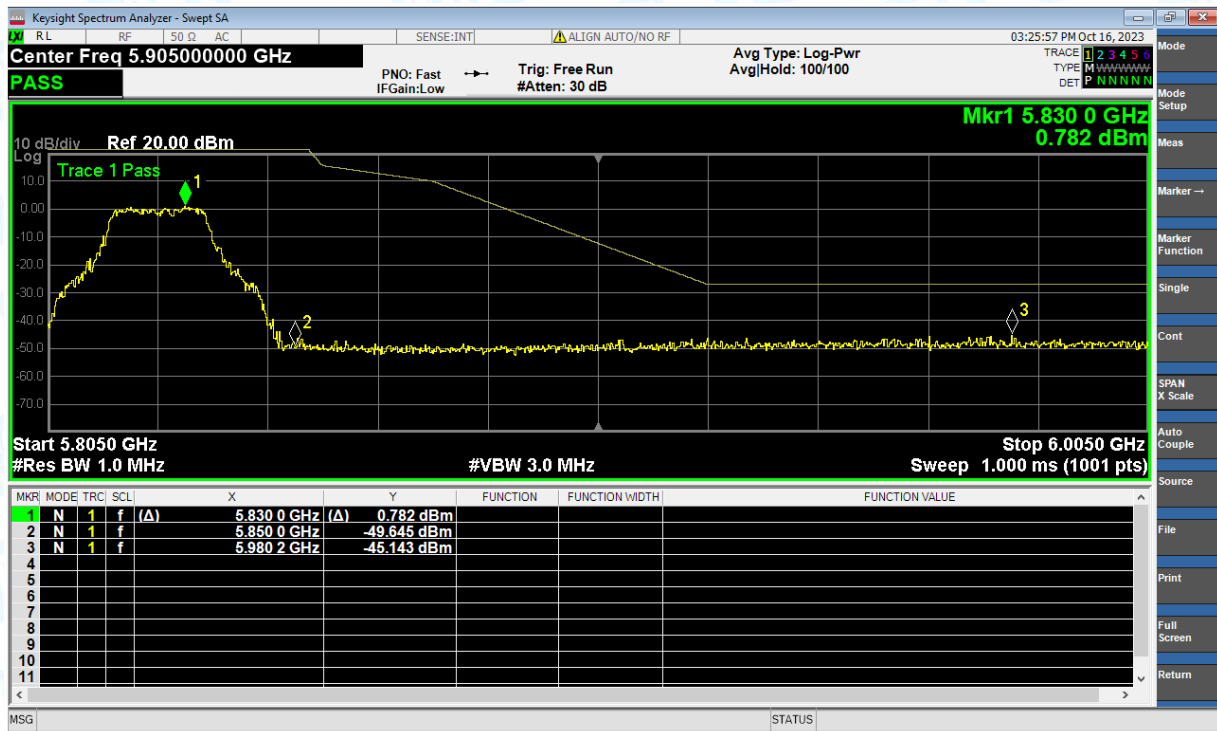
Band Edge NVNT ac(VHT40) 5795MHz High Ant1



Band Edge NVNT n(HT20) 5745MHz Low Ant1

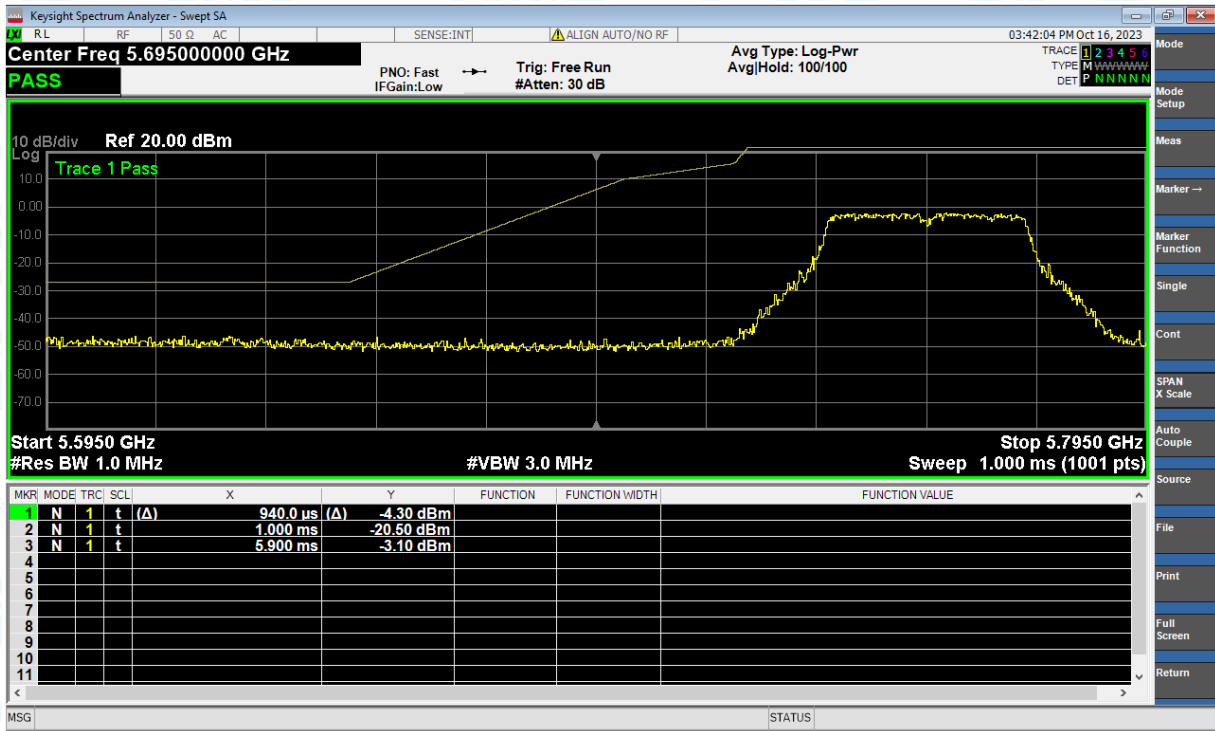


Band Edge NVNT n(HT20) 5825MHz High Ant1

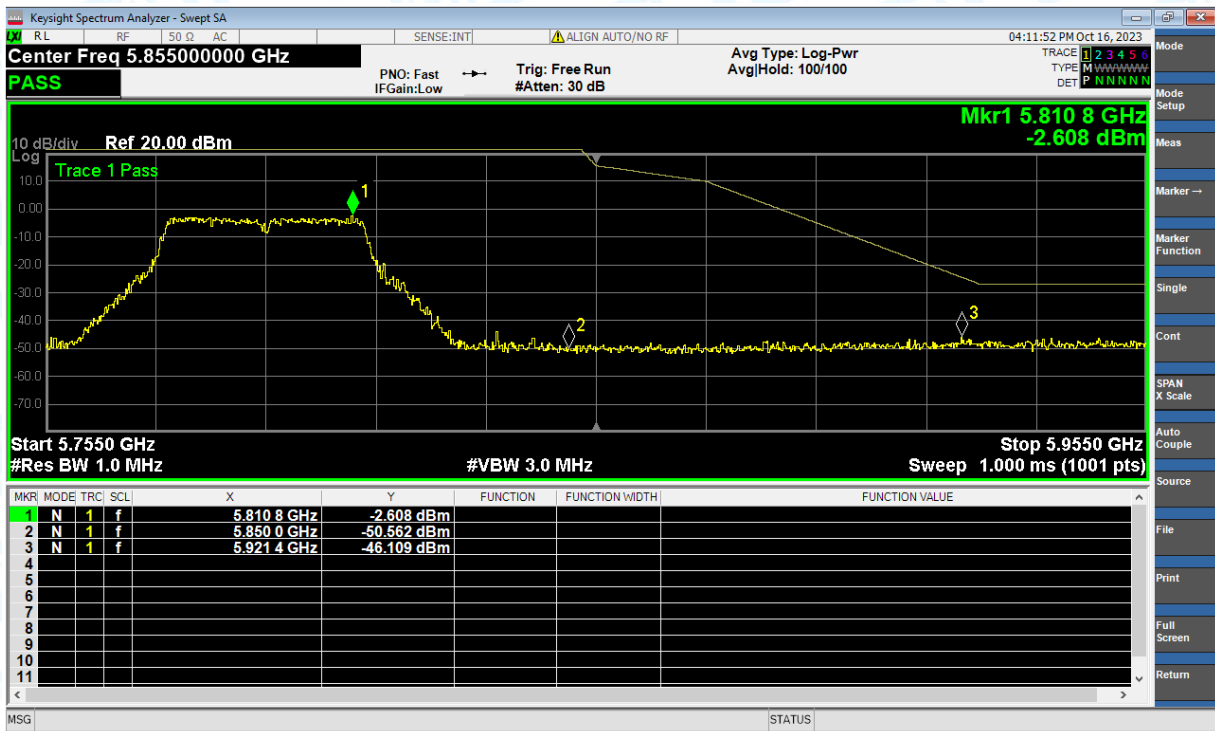




Band Edge NVNT n(HT40) 5755MHz Low Ant1



Band Edge NVNT n(HT40) 5795MHz High Ant1



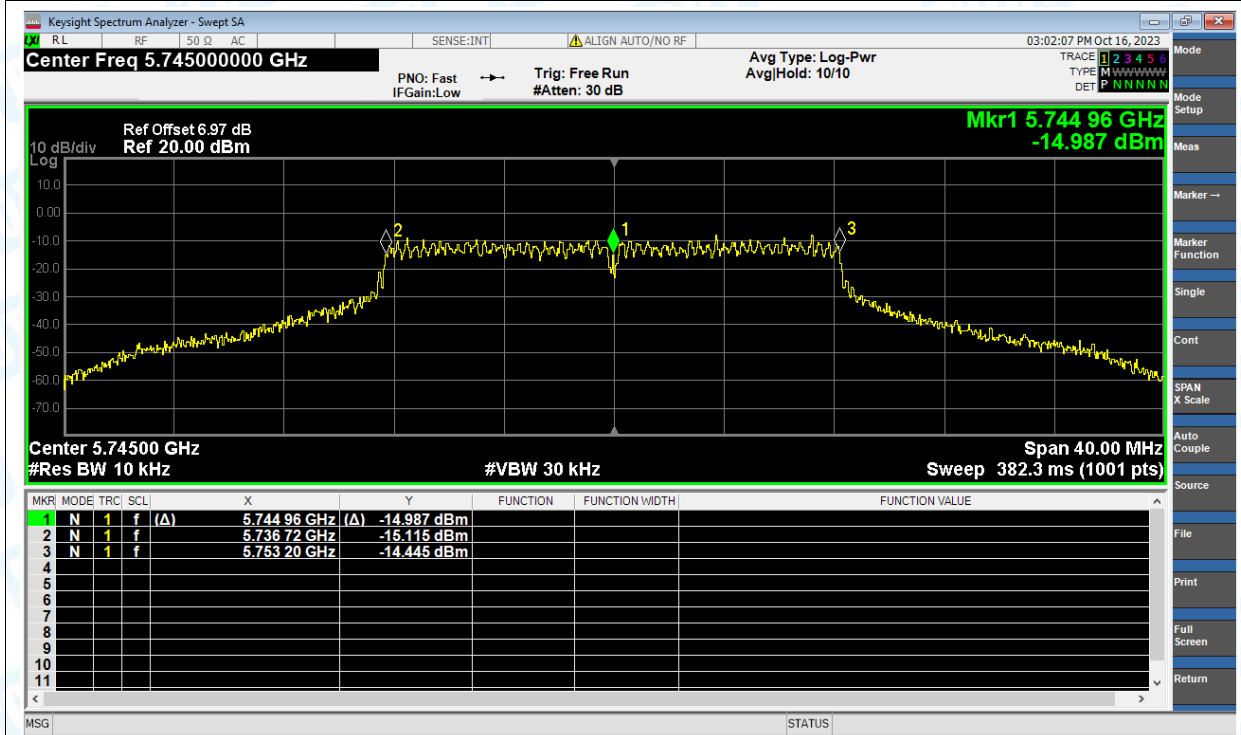
## 7. Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	Ant1	5744.96	-6.96	20	Pass
NVNT	ac(VHT20)	5745	Ant1	5744.98	-3.48	20	Pass
NVNT	ac(VHT40)	5755	Ant1	5754.96	-6.95	20	Pass
NVNT	n(HT20)	5745	Ant1	5744.98	-3.48	20	Pass
NVNT	n(HT40)	5755	Ant1	5754.96	-6.95	20	Pass

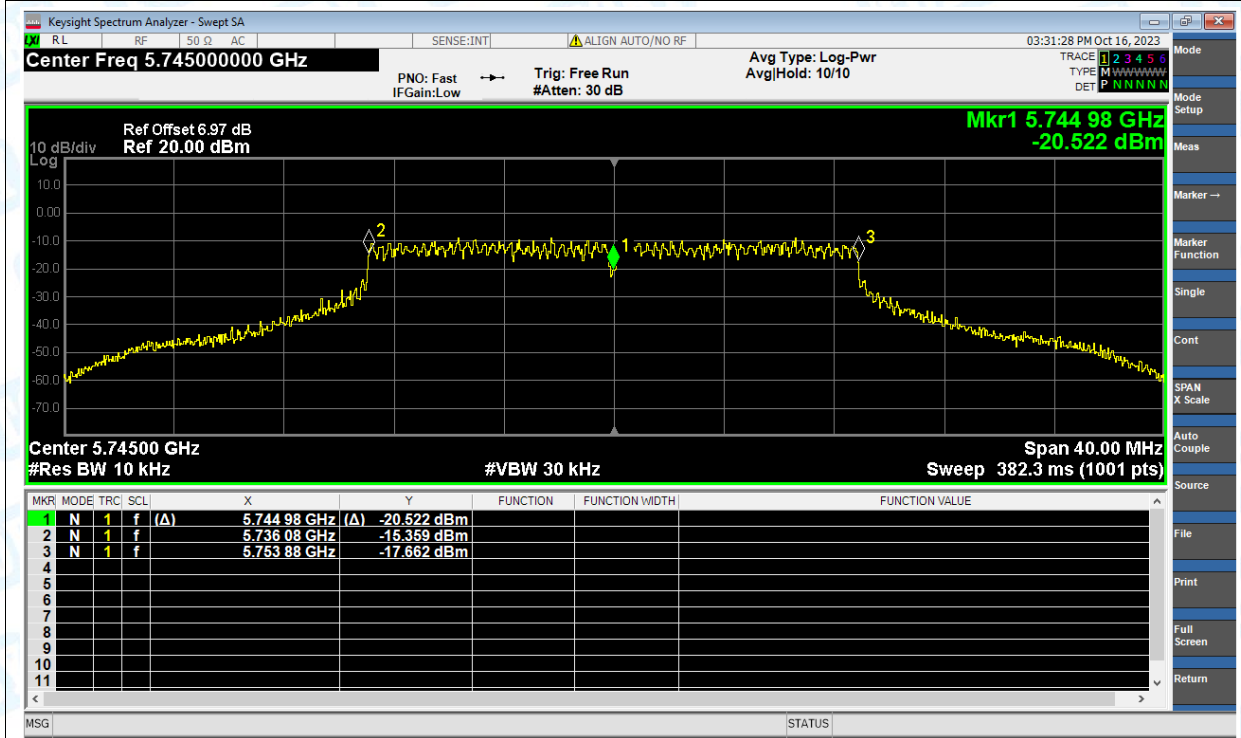


Test Graphs

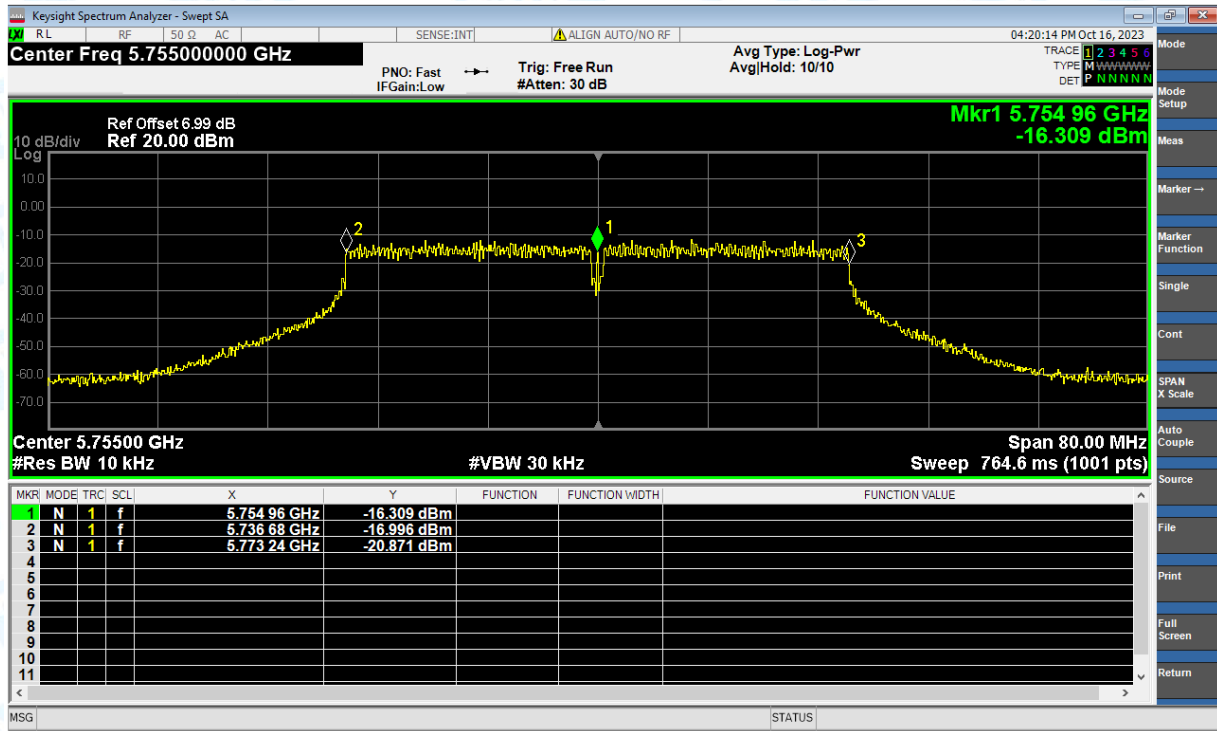
Freq. Stability NVNT a 5745MHz Ant1



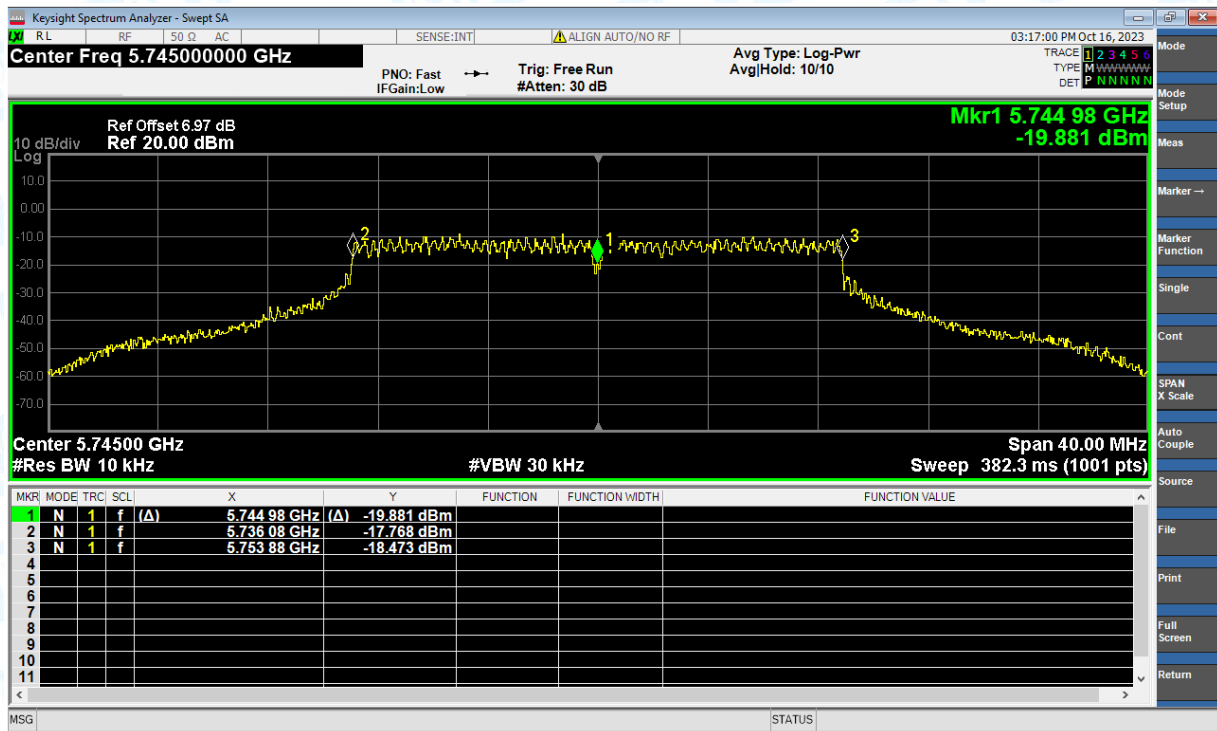
Freq. Stability NVNT ac(VHT20) 5745MHz Ant1



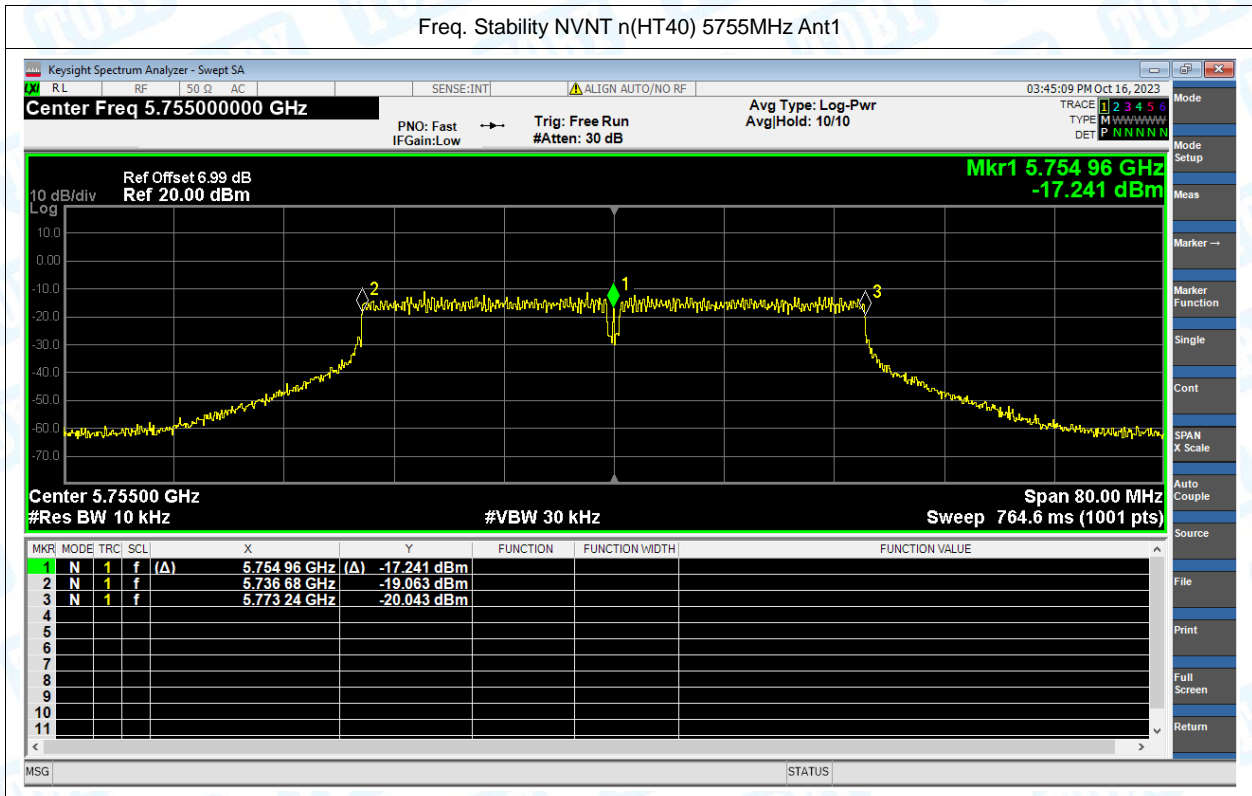
Freq. Stability NVNT ac(VHT40) 5755MHz Ant1



Freq. Stability NVNT n(HT20) 5745MHz Ant1



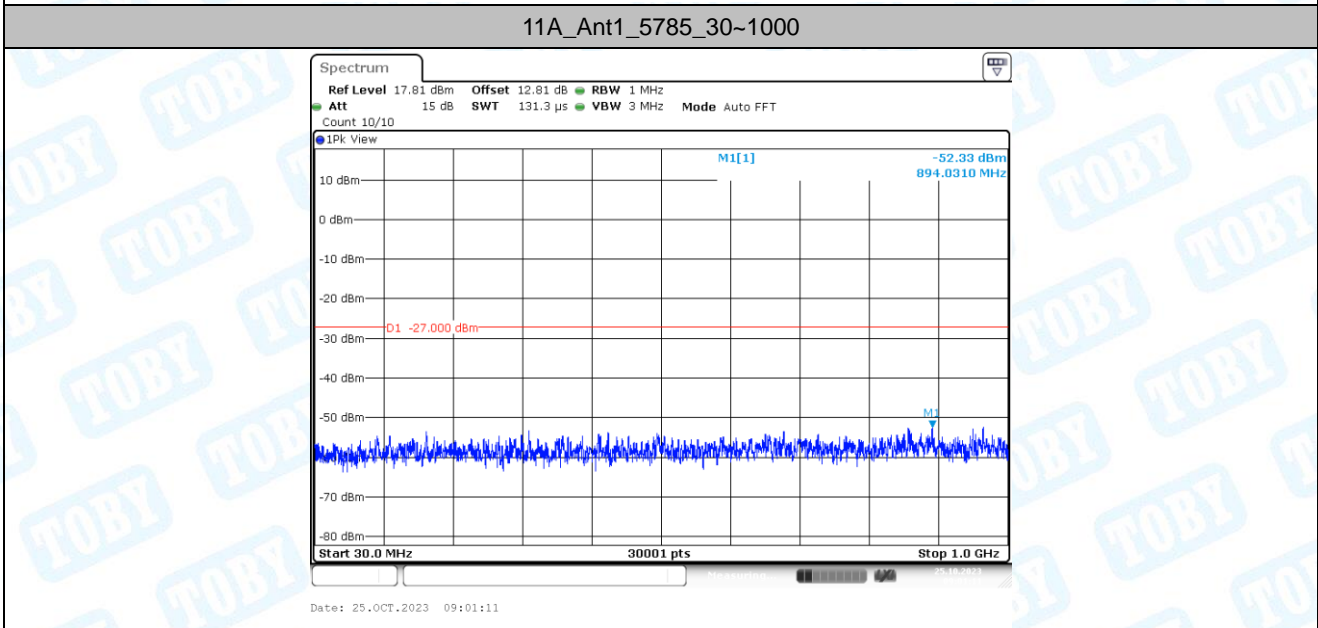
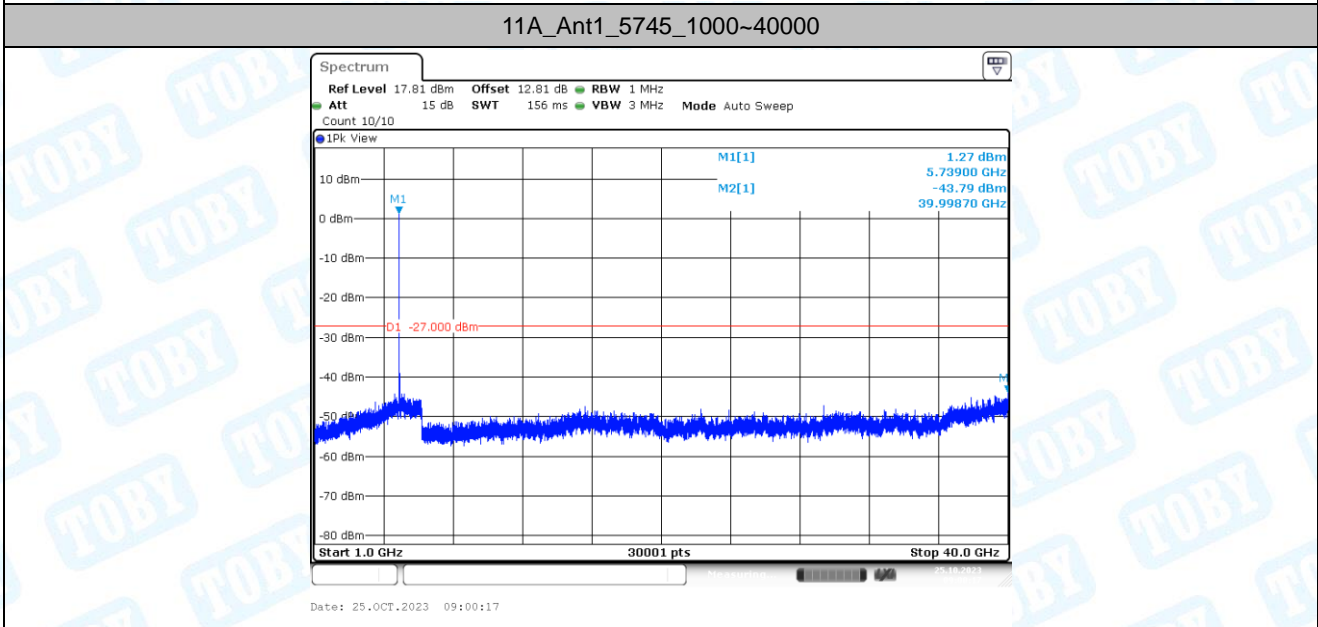
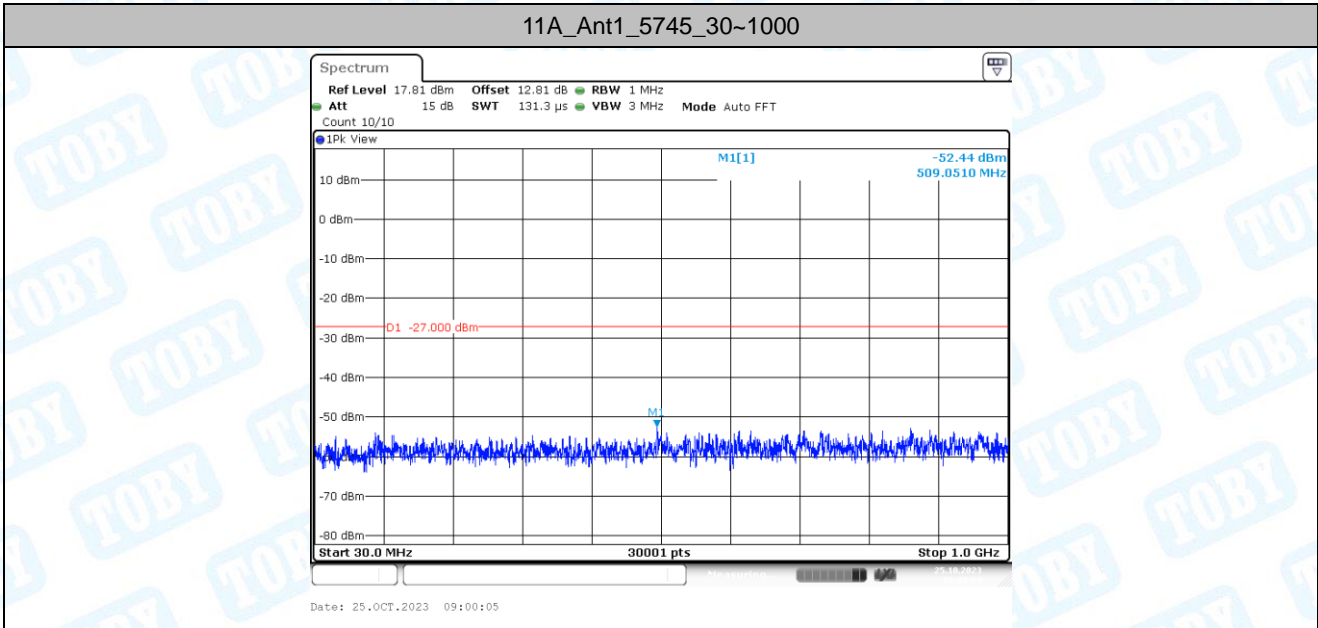




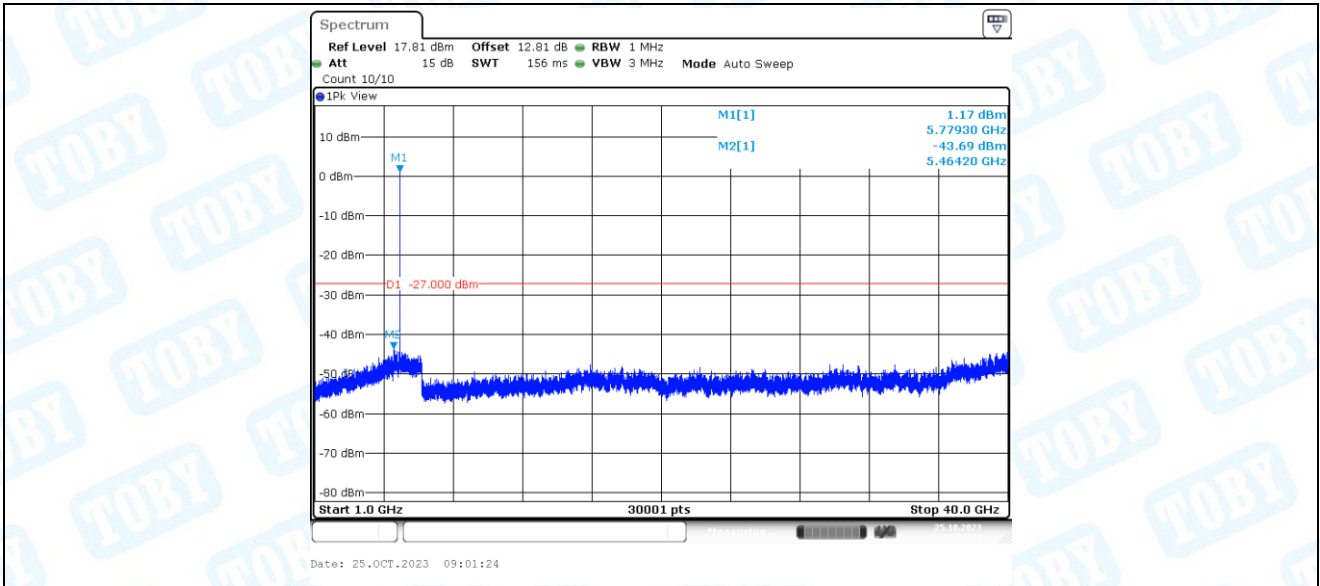
## 8. Conducted RF Spurious Emission

TestMode	Antenna	Channel	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5745	30~1000	509.05	-52.44	≤-27	PASS
			1000~40000	39998.7	-43.79	≤-27	PASS
		5785	30~1000	894.03	-52.33	≤-27	PASS
			1000~40000	5464.2	-43.69	≤-27	PASS
		5825	30~1000	861.08	-52.03	≤-27	PASS
			1000~40000	5543.5	-44.09	≤-27	PASS
11N20SISO	Ant1	5745	30~1000	708.41	-51.05	≤-27	PASS
			1000~40000	5923.1	-42.74	≤-27	PASS
		5785	30~1000	899.66	-50.66	≤-27	PASS
			1000~40000	5947.8	-42.75	≤-27	PASS
		5825	30~1000	867.75	-50.82	≤-27	PASS
			1000~40000	5568.2	-42.12	≤-27	PASS
11N40SISO	Ant1	5755	30~1000	874.24	-51.12	≤-27	PASS
			1000~40000	6054.4	-42.02	≤-27	PASS
		5795	30~1000	706.7	-51.42	≤-27	PASS
			1000~40000	6062.2	-43.06	≤-27	PASS
11AC20SISO	Ant1	5745	30~1000	566.15	-49.89	≤-27	PASS
			1000~40000	6226	-41.96	≤-27	PASS
		5785	30~1000	508.6	-50.02	≤-27	PASS
			1000~40000	5617.6	-42.13	≤-27	PASS
		5825	30~1000	889.08	-50.49	≤-27	PASS
			1000~40000	5557.8	-41.52	≤-27	PASS
11AC40SISO	Ant1	5755	30~1000	892.77	-49.88	≤-27	PASS
			1000~40000	39990.9	-41.54	≤-27	PASS
		5795	30~1000	888.18	-49.65	≤-27	PASS
			1000~40000	6181.8	-42.74	≤-27	PASS

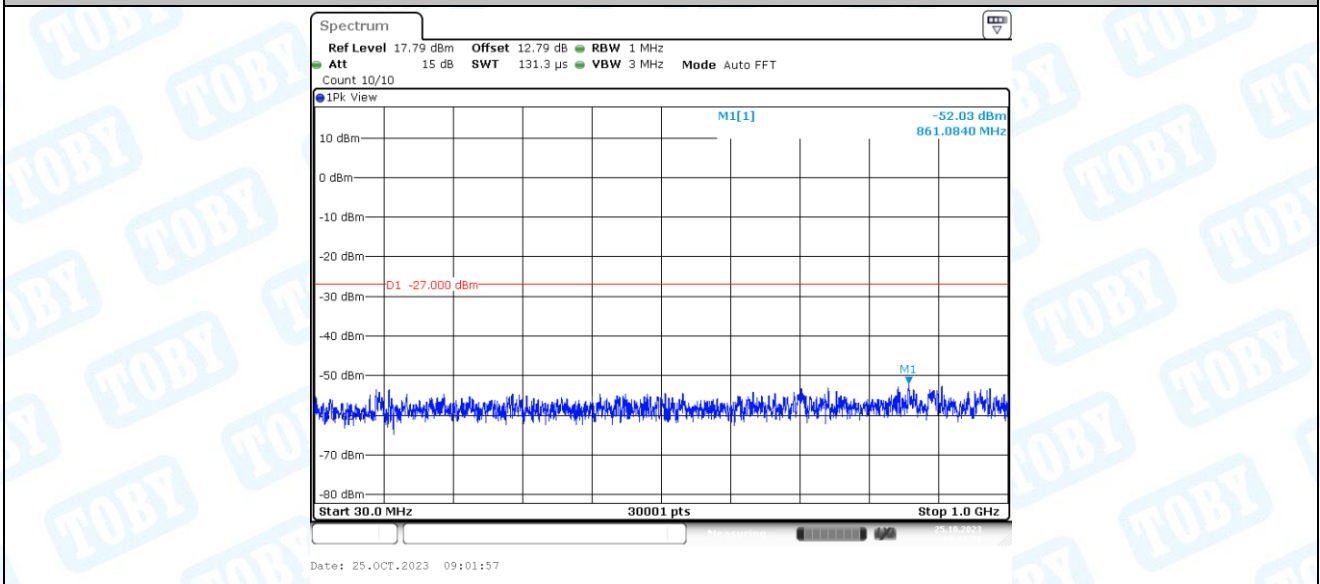




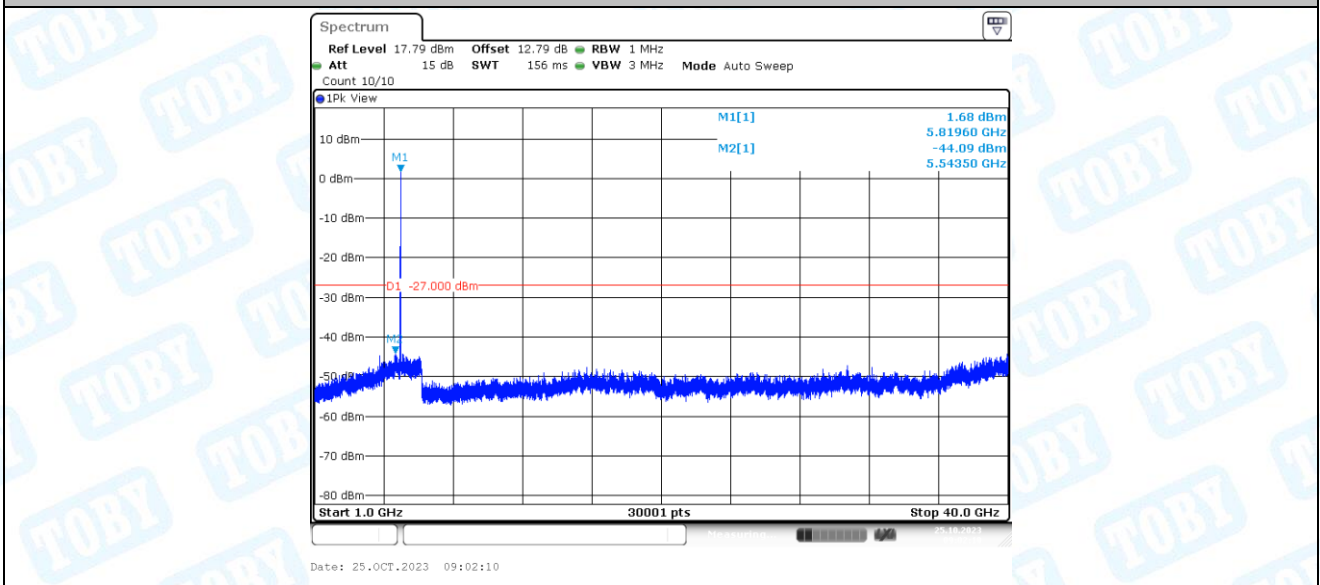
11A\_Ant1\_5785\_1000~40000



11A\_Ant1\_5825\_30~1000

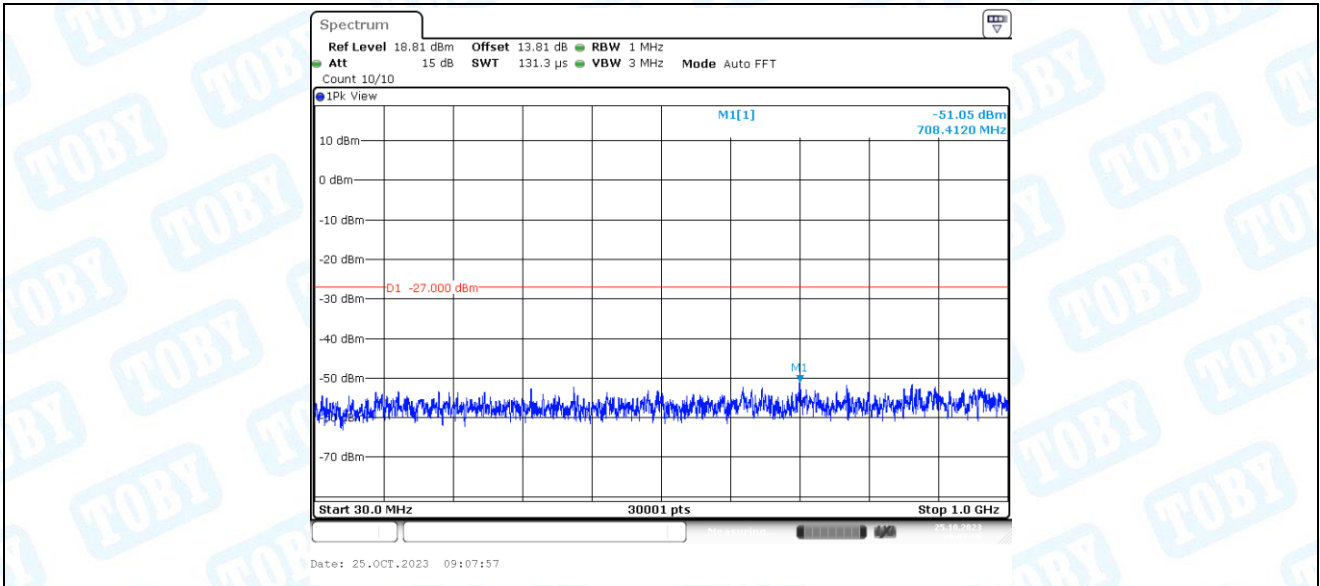


11A\_Ant1\_5825\_1000~40000

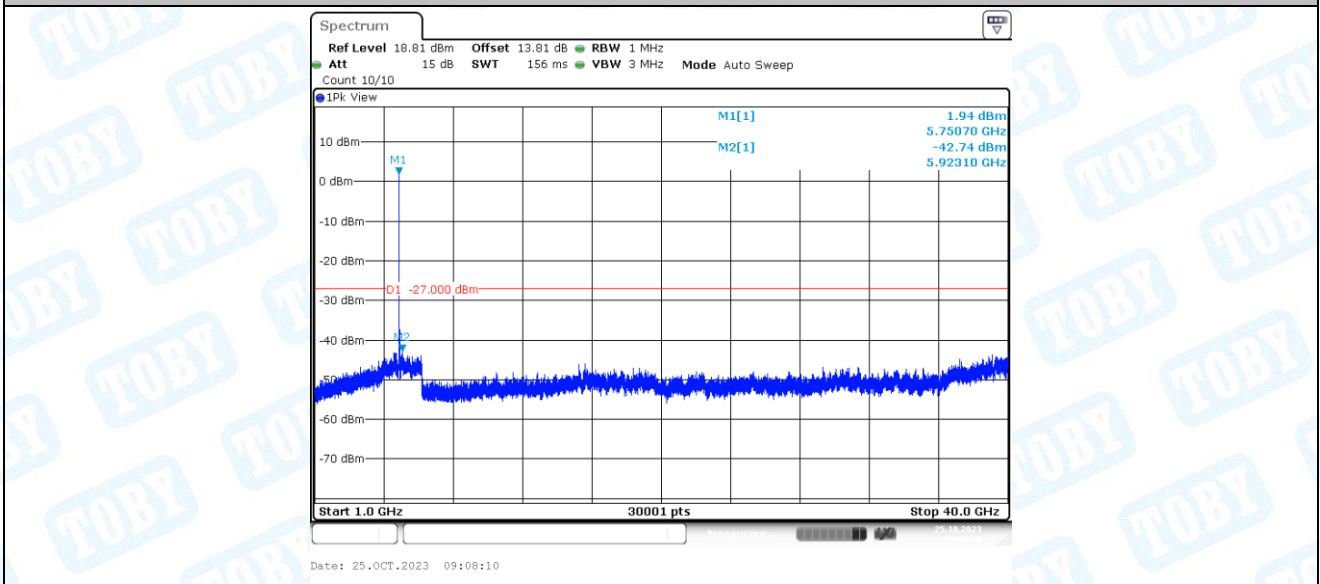


11N20SISO\_Ant1\_5745\_30~1000

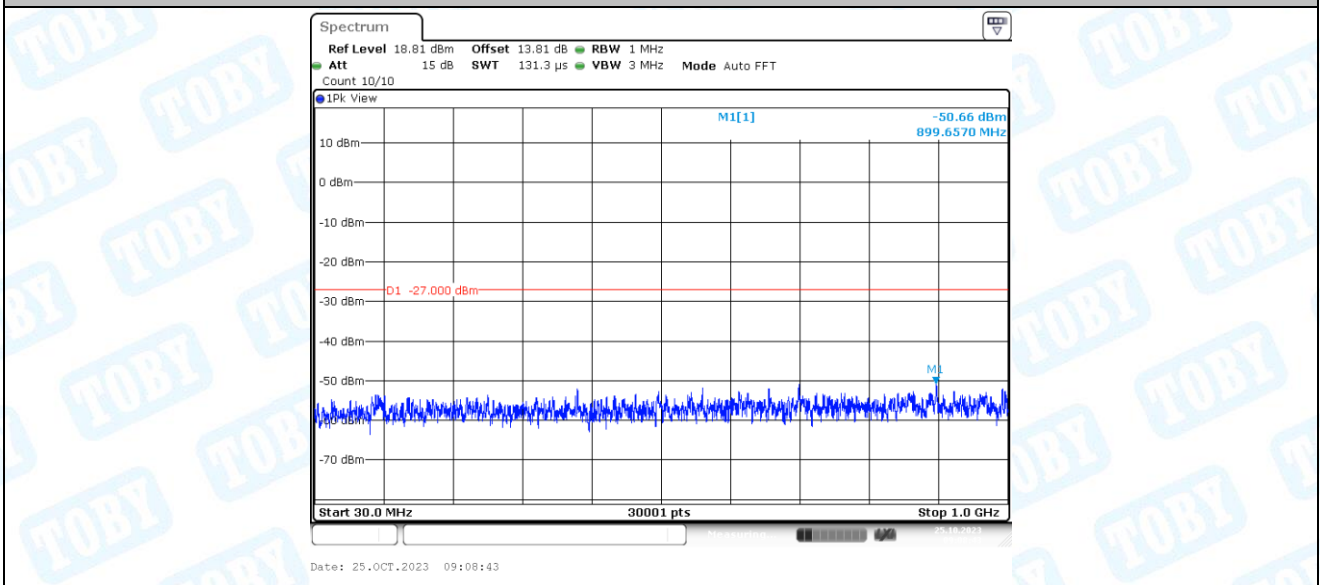




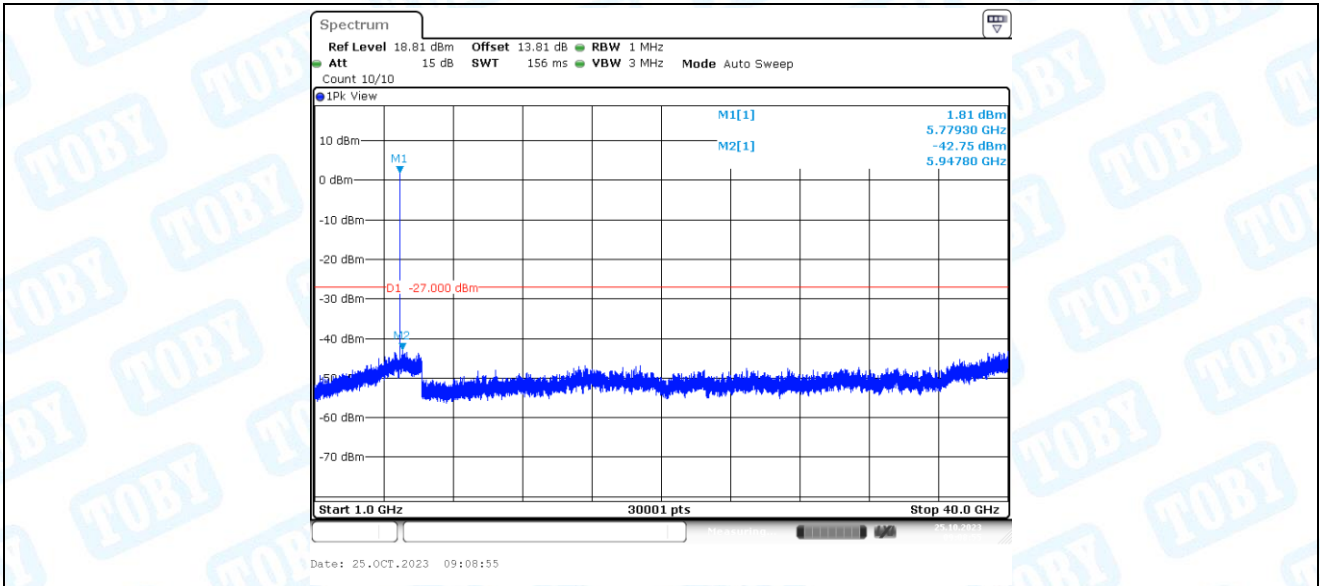
11N20SISO\_Ant1\_5745\_1000~40000



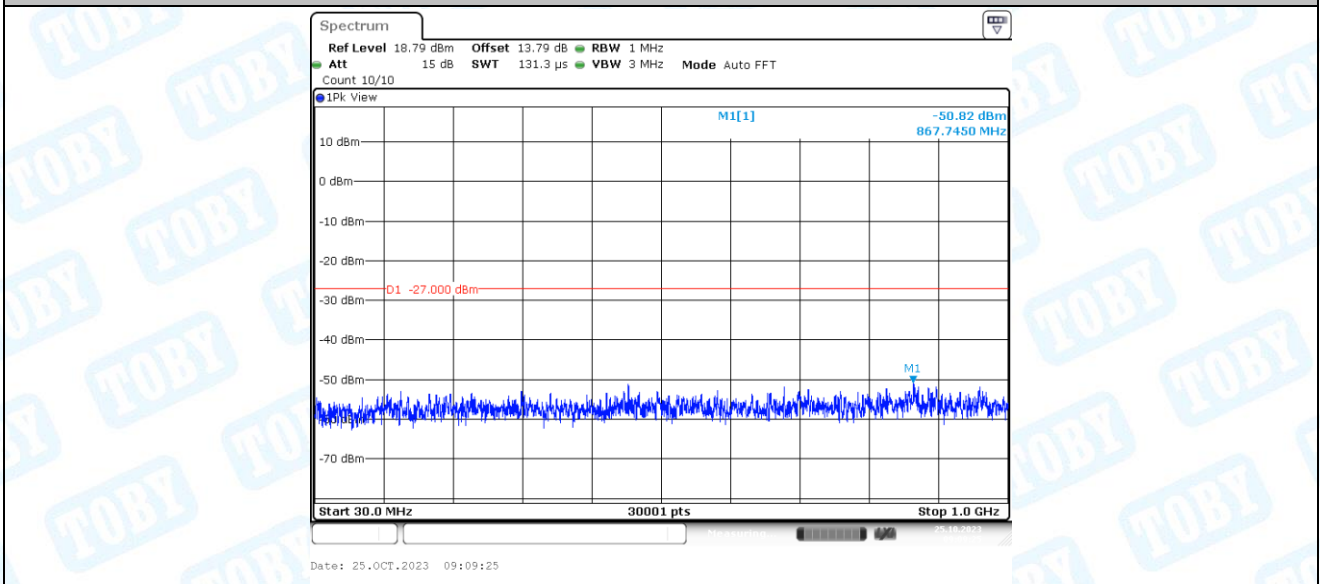
11N20SISO\_Ant1\_5785\_30~1000



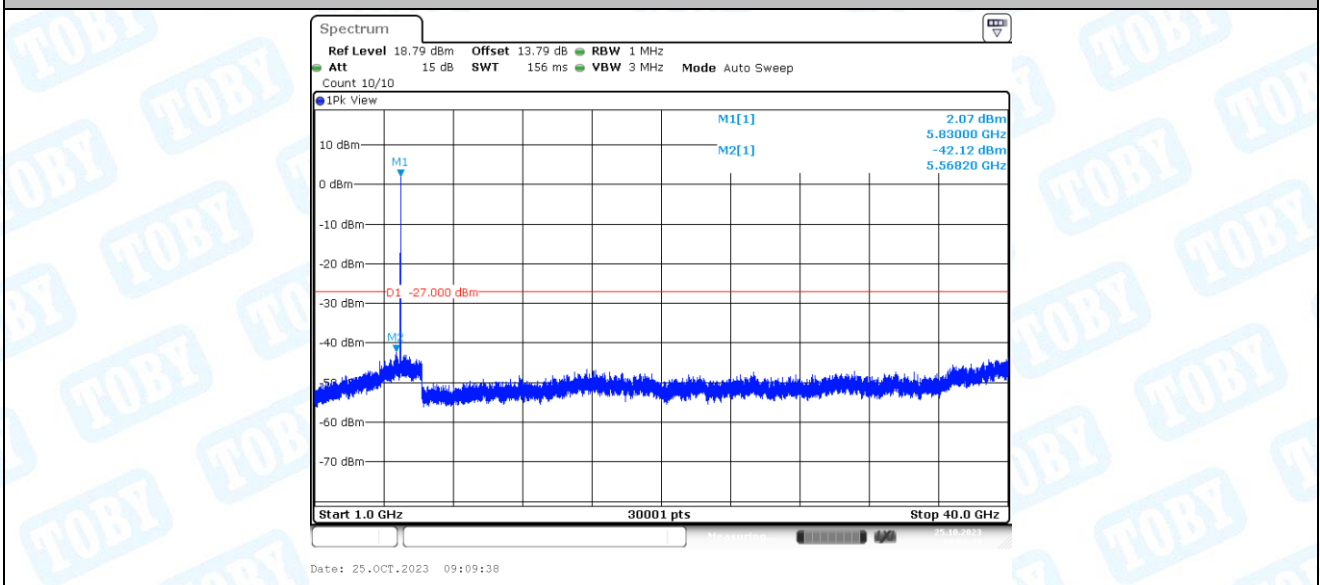
11N20SISO\_Ant1\_5785\_1000~40000



11N20SISO\_Ant1\_5825\_30~1000

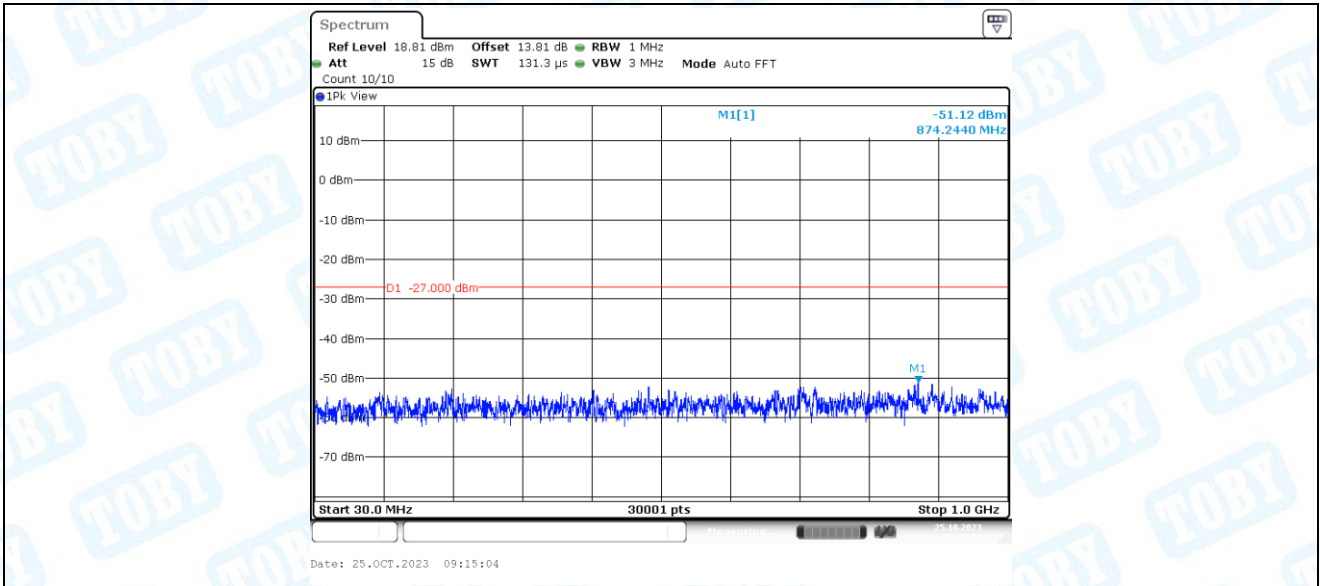


11N20SISO\_Ant1\_5825\_1000~40000

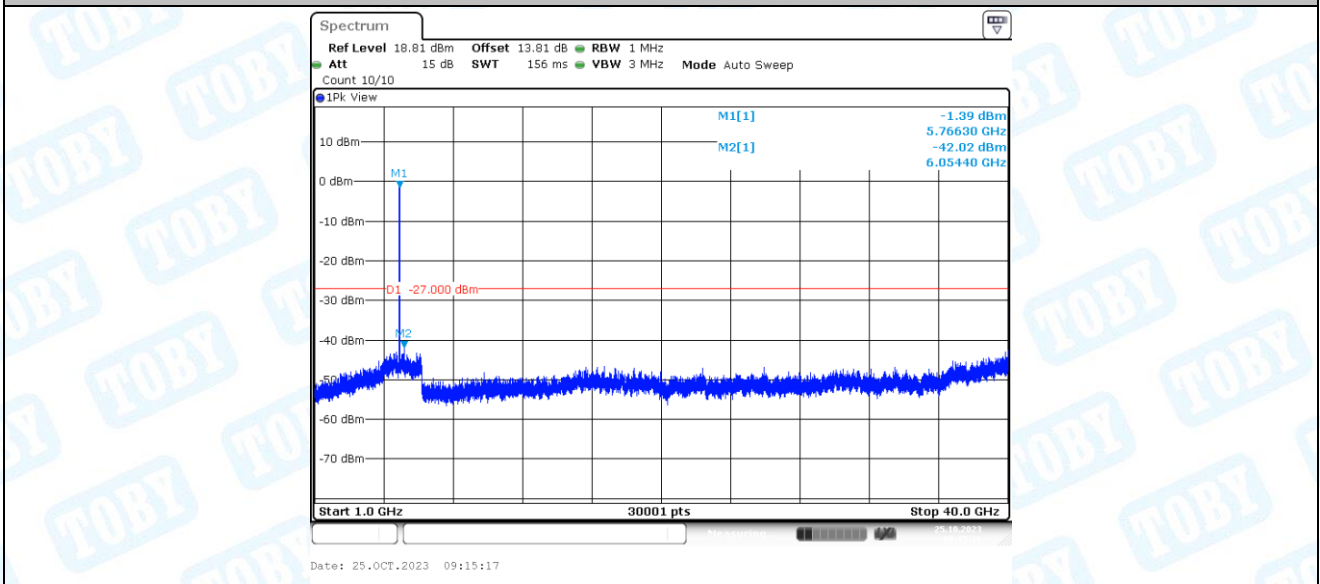


11N40SISO\_Ant1\_5755\_30~1000

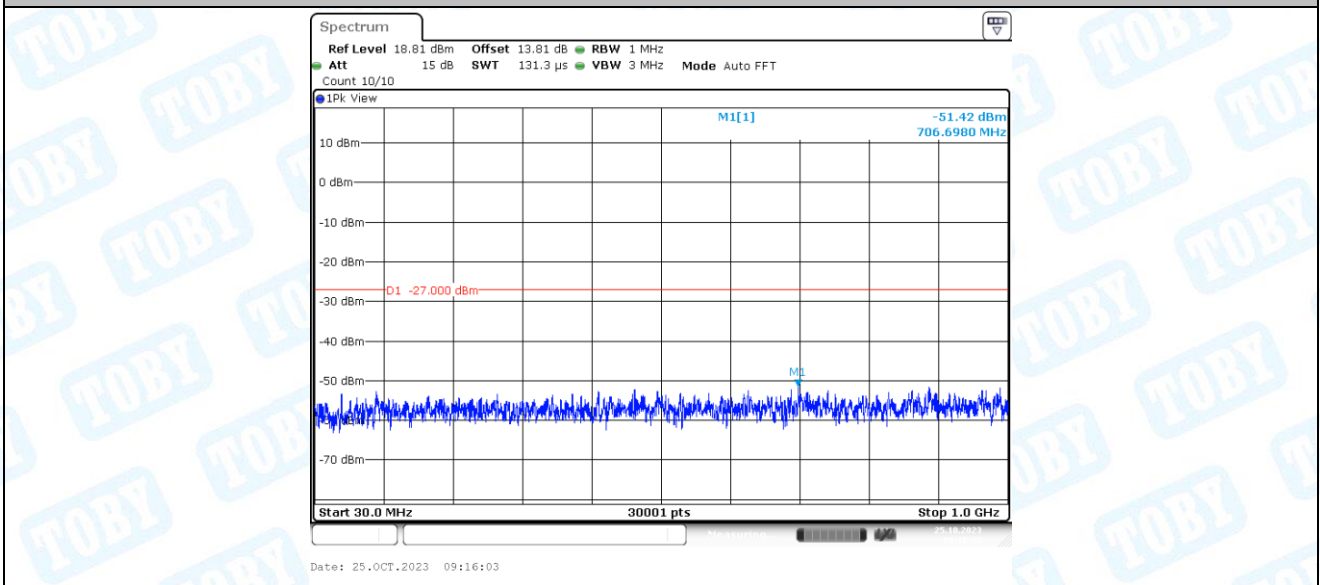




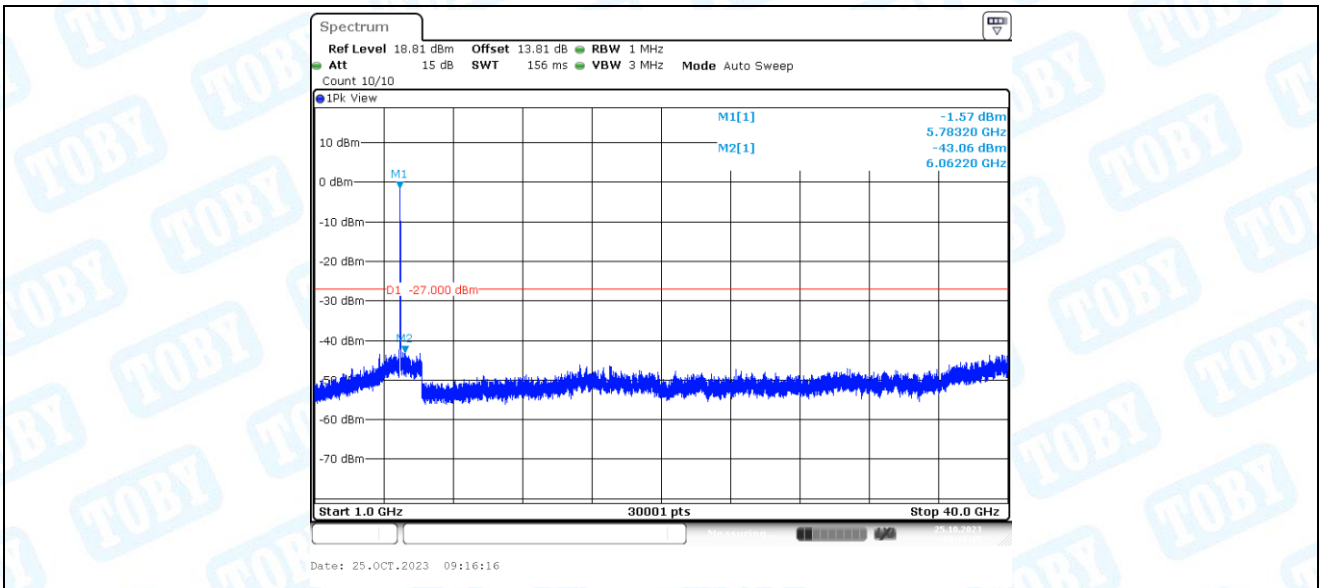
11N40SISO\_Ant1\_5755\_1000~40000



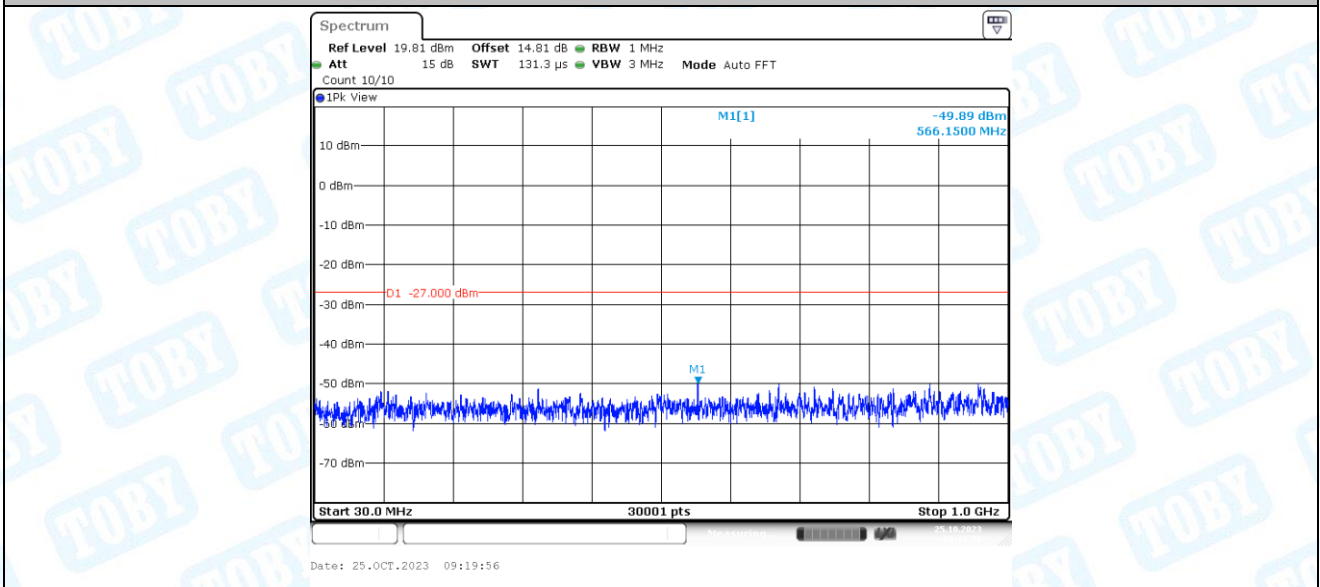
11N40SISO\_Ant1\_5795\_30~1000



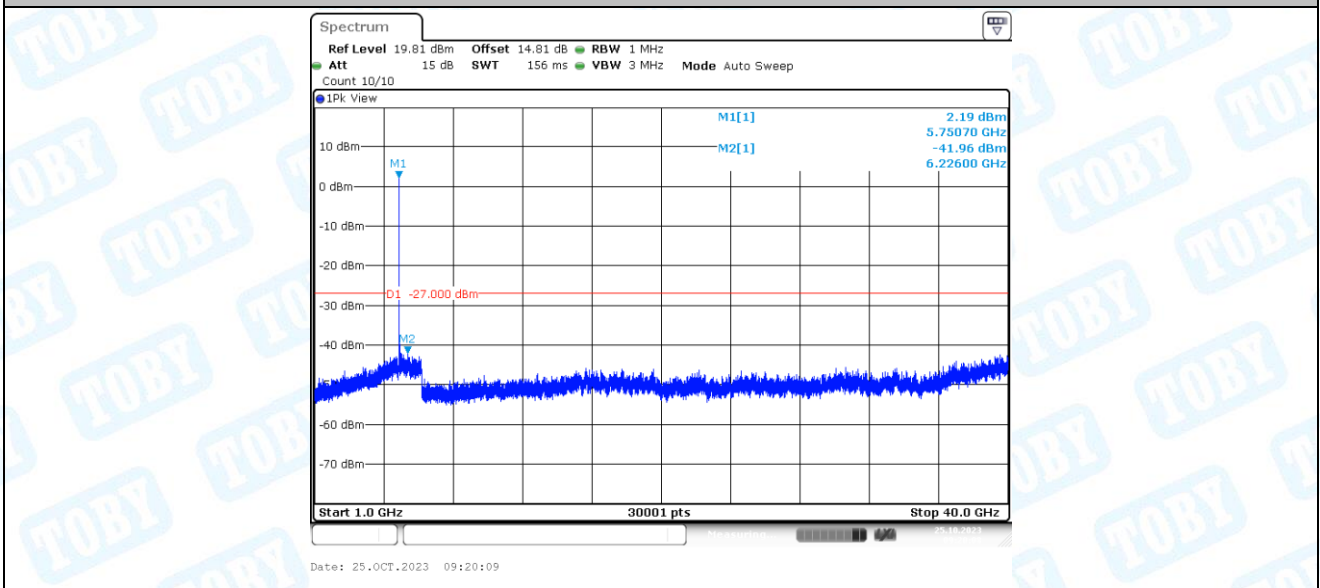
11N40SISO\_Ant1\_5795\_1000~40000



11AC20SISO\_Ant1\_5745\_30~1000

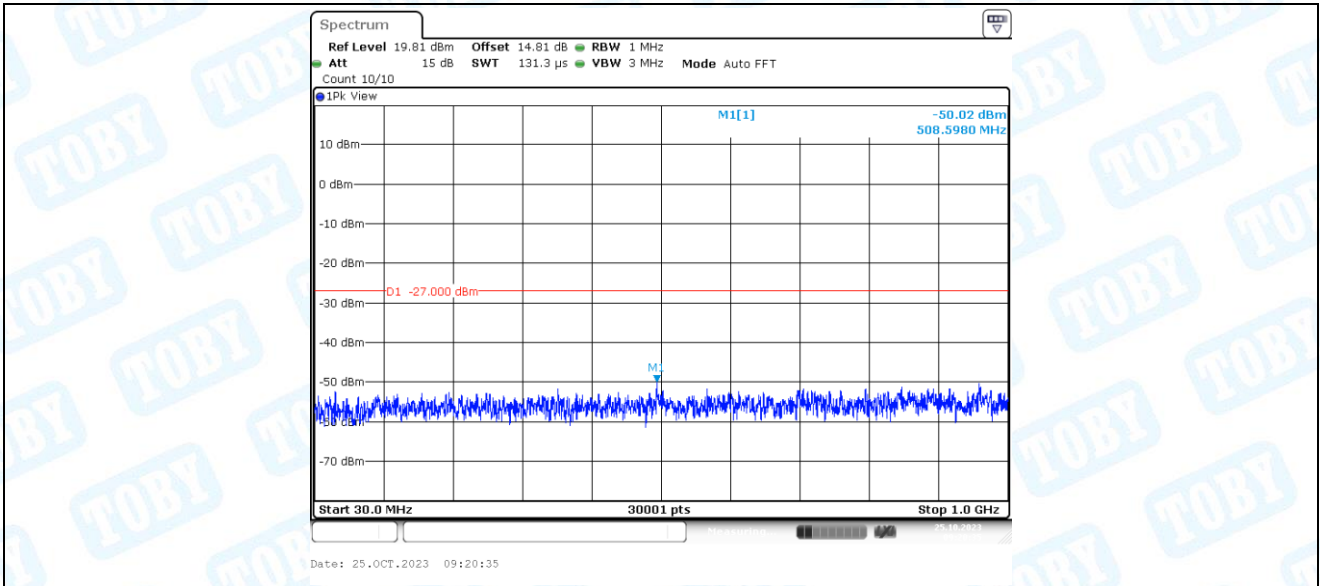


11AC20SISO\_Ant1\_5745\_1000~40000

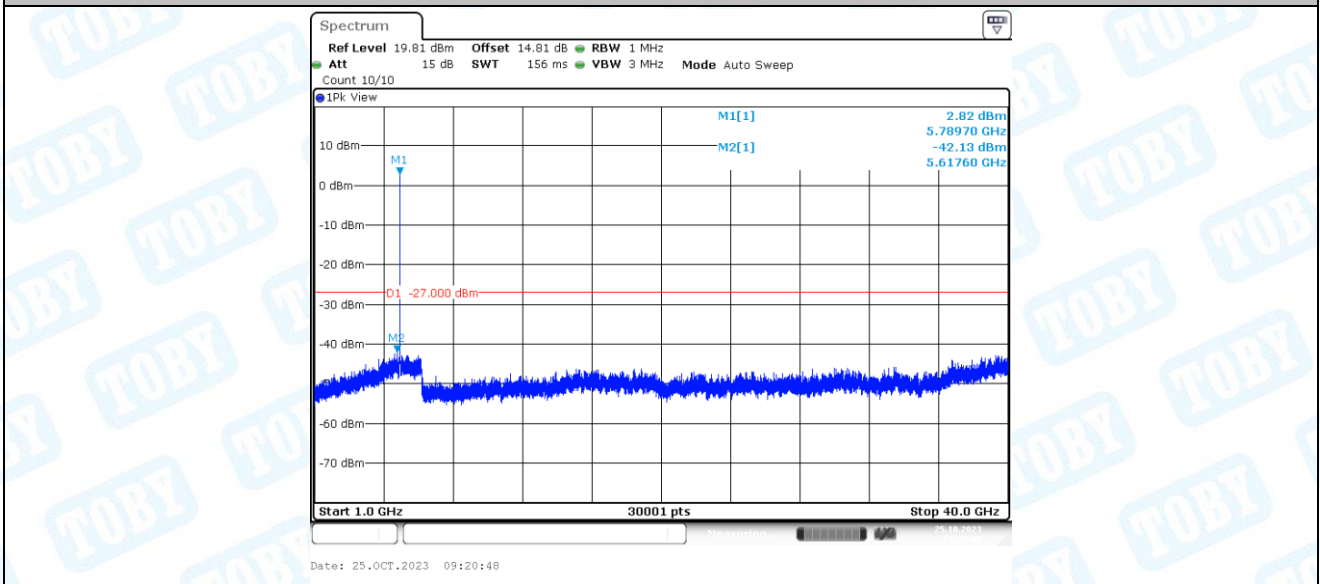


11AC20SISO\_Ant1\_5785\_30~1000

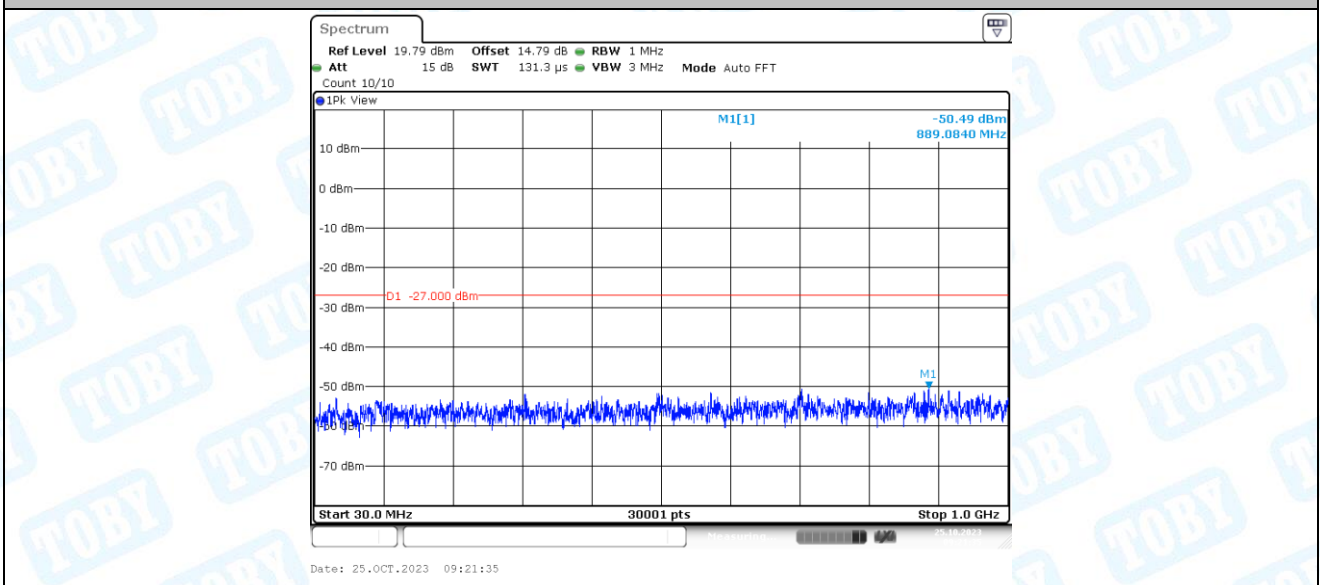




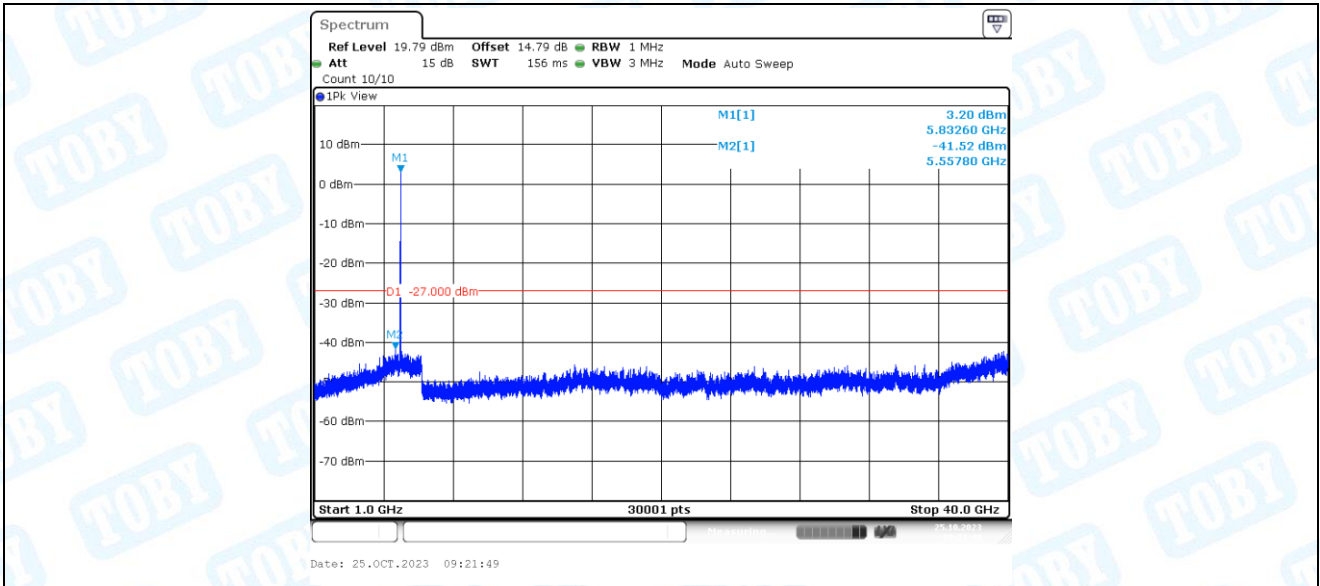
11AC20SISO\_Ant1\_5785\_1000~4000



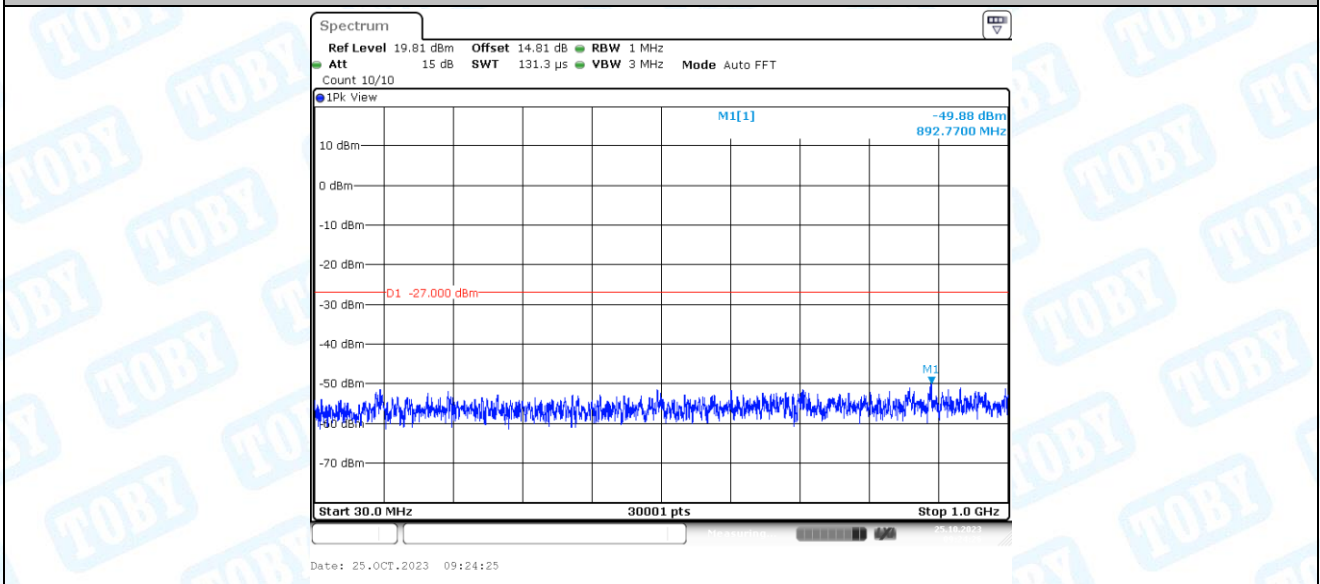
11AC20SISO\_Ant1\_5825\_30~1000



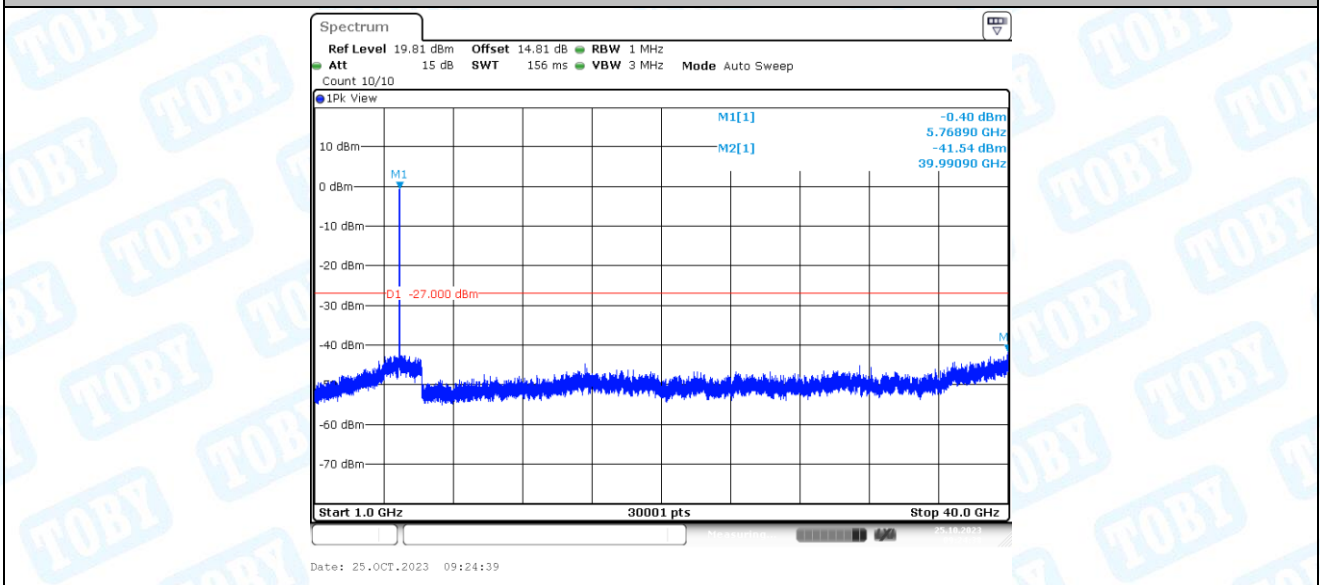
11AC20SISO\_Ant1\_5825\_1000~4000



11AC40SISO\_Ant1\_5755\_30~1000

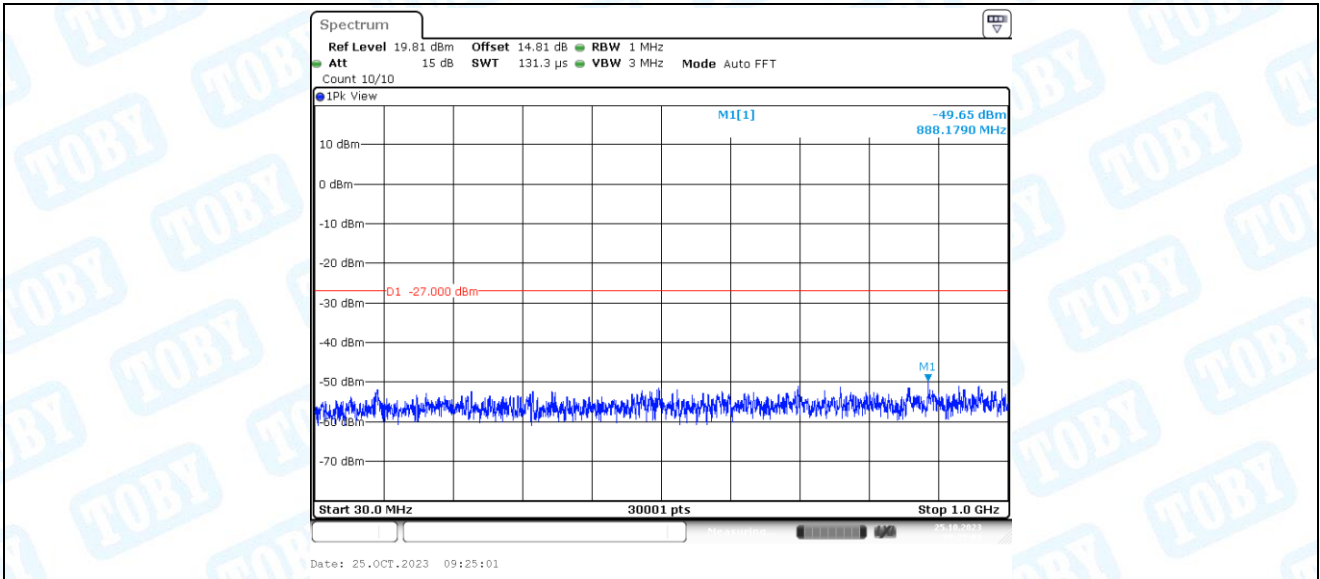


11AC40SISO\_Ant1\_5755\_1000~40000

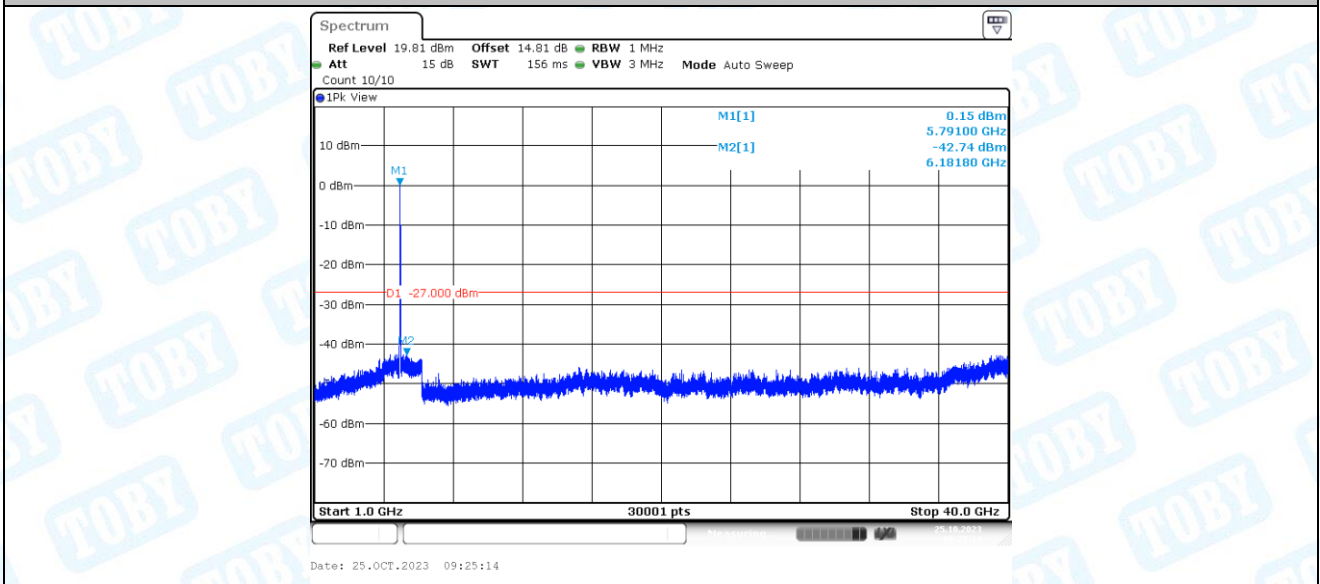


11AC40SISO\_Ant1\_5795\_30~1000





11AC40SISO\_Ant1\_5795\_1000~40000





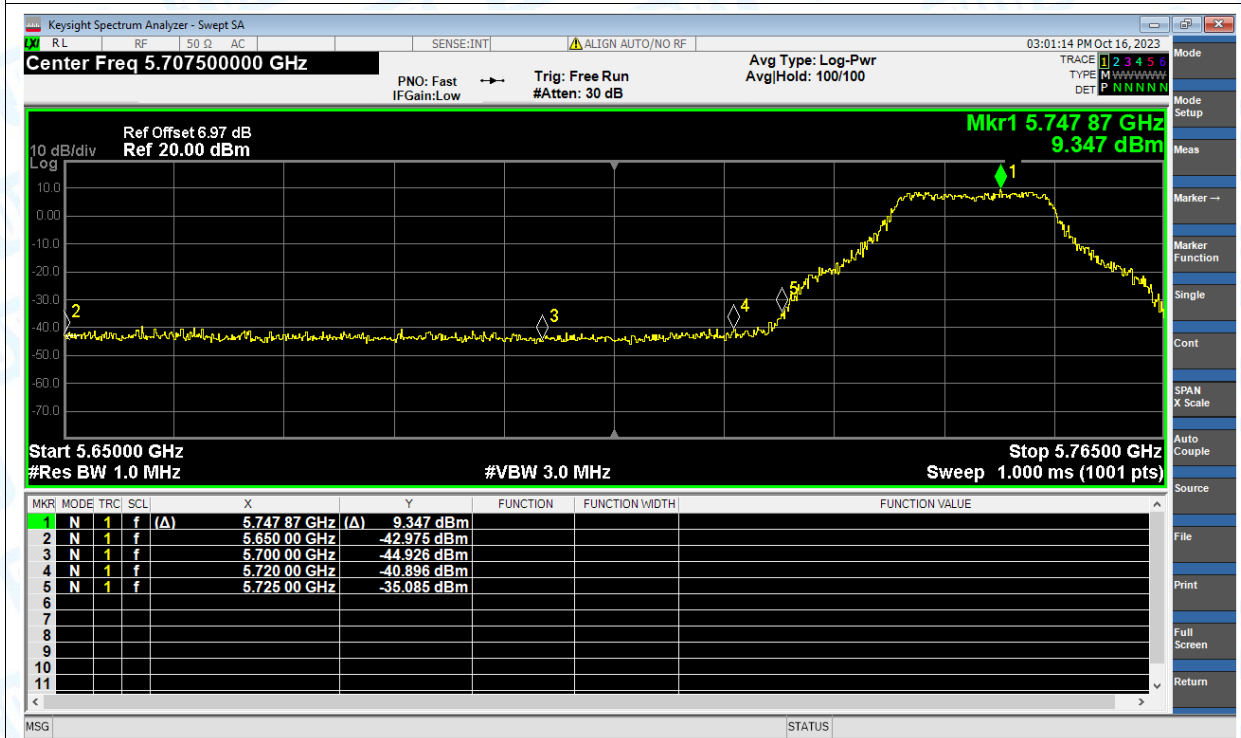
## 9. Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5745	Ant1	5650	-42.98	5.25	-37.73	Peak	-27	Pass
NVNT	a	5745	Ant1	5700	-44.93	5.25	-39.68	Peak	10	Pass
NVNT	a	5745	Ant1	5720	-40.9	5.25	-35.65	Peak	15.6	Pass
NVNT	a	5745	Ant1	5725	-35.89	5.25	-30.64	Peak	27	Pass
NVNT	a	5825	Ant1	5850	-43.3	5.25	-38.05	Peak	27	Pass
NVNT	a	5825	Ant1	5855	-44.04	5.25	-38.79	Peak	15.6	Pass
NVNT	a	5825	Ant1	5875	-41.98	5.25	-36.73	Peak	10	Pass
NVNT	a	5825	Ant1	5925	-41.44	5.25	-36.19	Peak	-27	Pass
NVNT	ac(VHT20)	5745	Ant1	5650	-44.34	5.25	-39.09	Peak	-27	Pass
NVNT	ac(VHT20)	5745	Ant1	5700	-44.9	5.25	-39.65	Peak	10	Pass
NVNT	ac(VHT20)	5745	Ant1	5720	-41.18	5.25	-35.93	Peak	15.6	Pass
NVNT	ac(VHT20)	5745	Ant1	5725	-36.93	5.25	-31.68	Peak	27	Pass
NVNT	ac(VHT20)	5825	Ant1	5850	-42.02	5.25	-36.77	Peak	27	Pass
NVNT	ac(VHT20)	5825	Ant1	5855	-43.31	5.25	-38.06	Peak	15.6	Pass
NVNT	ac(VHT20)	5825	Ant1	5875	-43.48	5.25	-38.23	Peak	10	Pass
NVNT	ac(VHT20)	5825	Ant1	5925	-42.47	5.25	-37.22	Peak	-27	Pass
NVNT	ac(VHT40)	5755	Ant1	5650	-42.14	5.25	-36.89	Peak	-27	Pass
NVNT	ac(VHT40)	5755	Ant1	5700	-43.71	5.25	-38.46	Peak	10	Pass
NVNT	ac(VHT40)	5755	Ant1	5720	-40.18	5.25	-34.93	Peak	15.6	Pass
NVNT	ac(VHT40)	5755	Ant1	5725	-30.99	5.25	-25.74	Peak	27	Pass
NVNT	ac(VHT40)	5795	Ant1	5850	-43.02	5.25	-37.77	Peak	27	Pass
NVNT	ac(VHT40)	5795	Ant1	5855	-43.38	5.25	-38.13	Peak	15.6	Pass
NVNT	ac(VHT40)	5795	Ant1	5875	-43.19	5.25	-37.94	Peak	10	Pass
NVNT	ac(VHT40)	5795	Ant1	5925	-42.21	5.25	-36.96	Peak	-27	Pass
NVNT	n(HT20)	5745	Ant1	5650	-42.69	5.25	-37.44	Peak	-27	Pass
NVNT	n(HT20)	5745	Ant1	5700	-44.52	5.25	-39.27	Peak	10	Pass
NVNT	n(HT20)	5745	Ant1	5720	-41.56	5.25	-36.31	Peak	15.6	Pass
NVNT	n(HT20)	5745	Ant1	5725	-33.47	5.25	-28.22	Peak	27	Pass
NVNT	n(HT20)	5825	Ant1	5850	-42.44	5.25	-37.19	Peak	27	Pass
NVNT	n(HT20)	5825	Ant1	5855	-45.15	5.25	-39.9	Peak	15.6	Pass
NVNT	n(HT20)	5825	Ant1	5875	-44.62	5.25	-39.37	Peak	10	Pass
NVNT	n(HT20)	5825	Ant1	5925	-42.43	5.25	-37.18	Peak	-27	Pass
NVNT	n(HT40)	5755	Ant1	5650	-46.01	5.25	-40.76	Peak	-27	Pass
NVNT	n(HT40)	5755	Ant1	5700	-43.8	5.25	-38.55	Peak	10	Pass
NVNT	n(HT40)	5755	Ant1	5720	-41.69	5.25	-36.44	Peak	15.6	Pass
NVNT	n(HT40)	5755	Ant1	5725	-41.96	5.25	-36.71	Peak	27	Pass
NVNT	n(HT40)	5795	Ant1	5850	-42.82	5.25	-37.57	Peak	27	Pass
NVNT	n(HT40)	5795	Ant1	5855	-43.85	5.25	-38.6	Peak	15.6	Pass
NVNT	n(HT40)	5795	Ant1	5875	-44.1	5.25	-38.85	Peak	10	Pass
NVNT	n(HT40)	5795	Ant1	5925	-42.13	5.25	-36.88	Peak	-27	Pass



Test Graphs

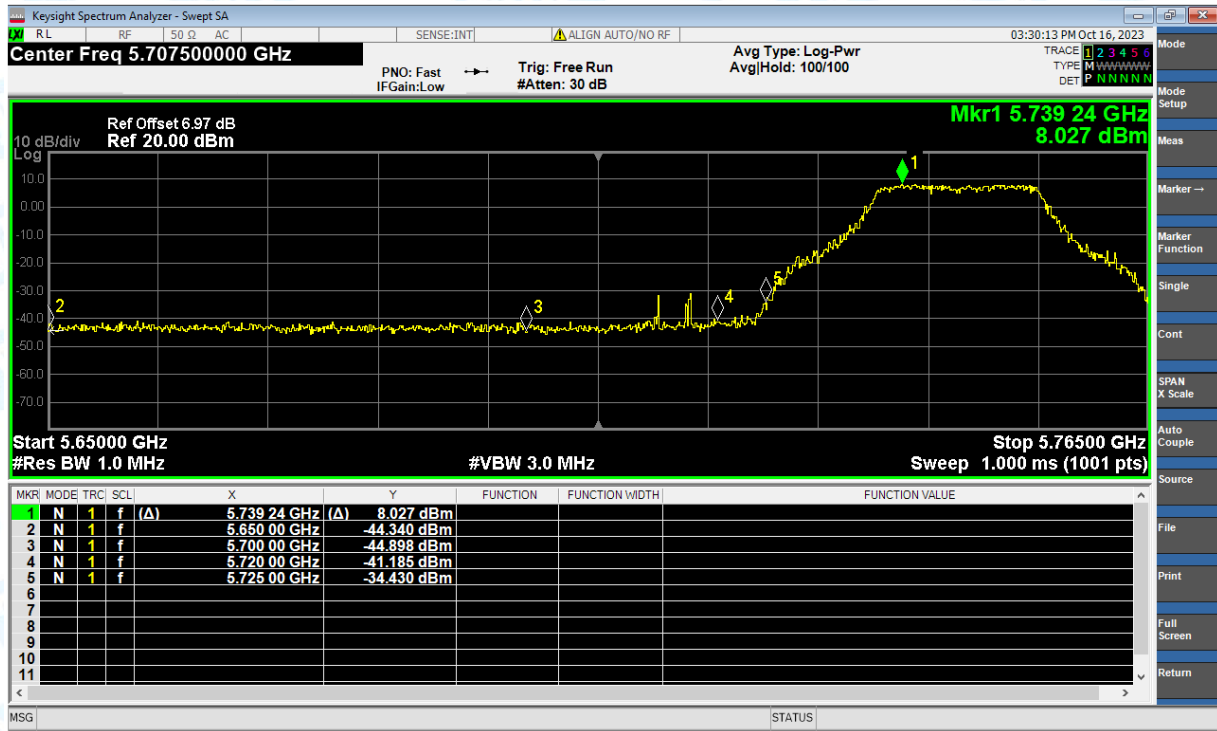
Restrict Band NVNT a 5745MHz Ant1 Peak



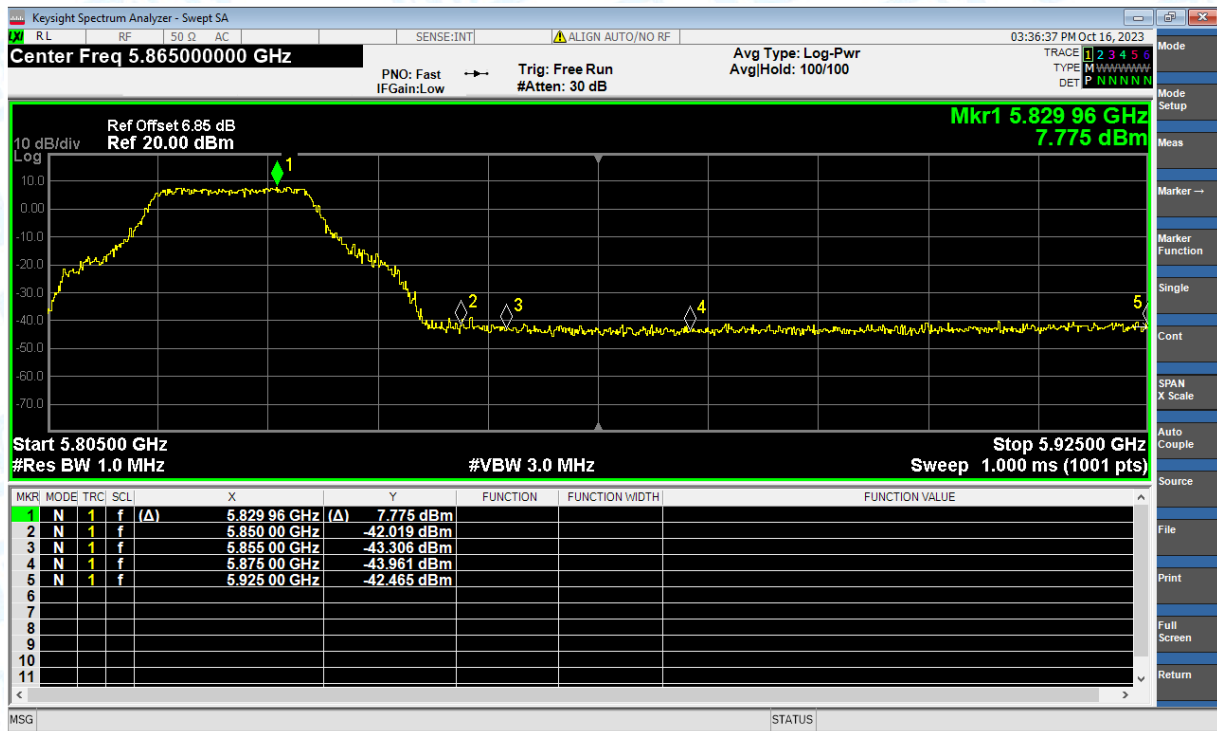
Restrict Band NVNT a 5825MHz Ant1 Peak



Restrict Band NVNT ac(VHT20) 5745MHz Ant1 Peak

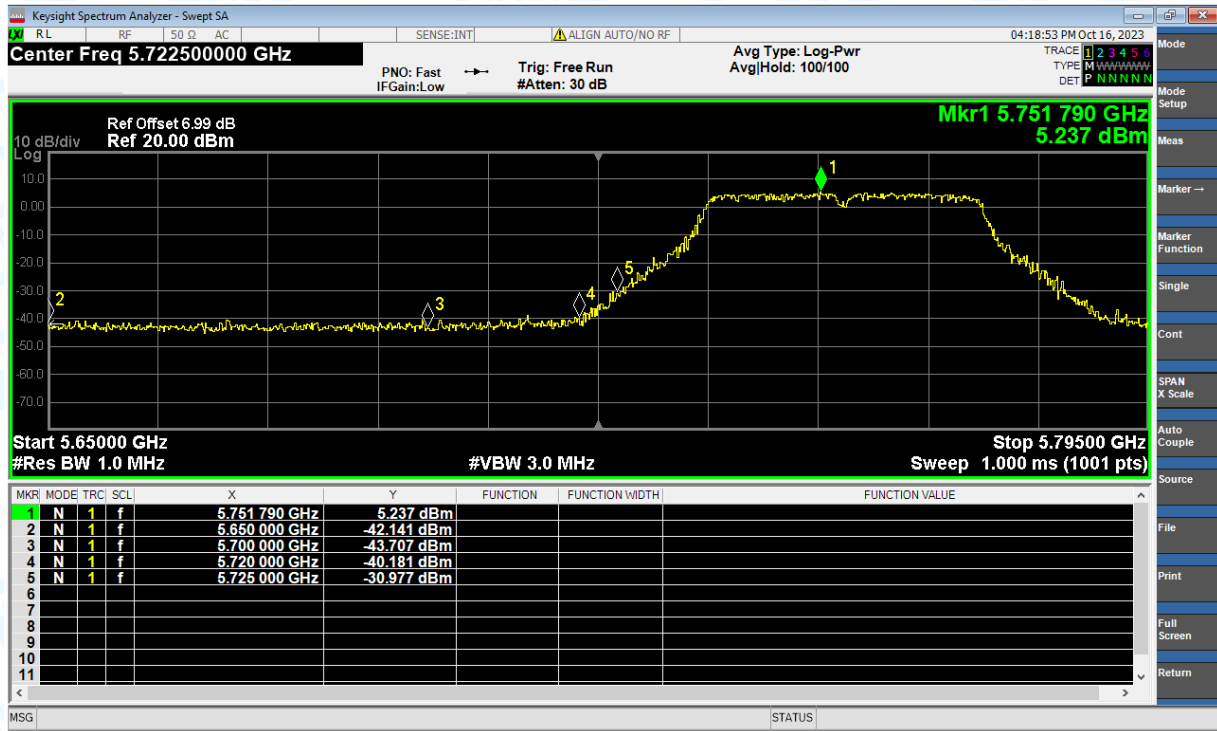


Restrict Band NVNT ac(VHT20) 5825MHz Ant1 Peak

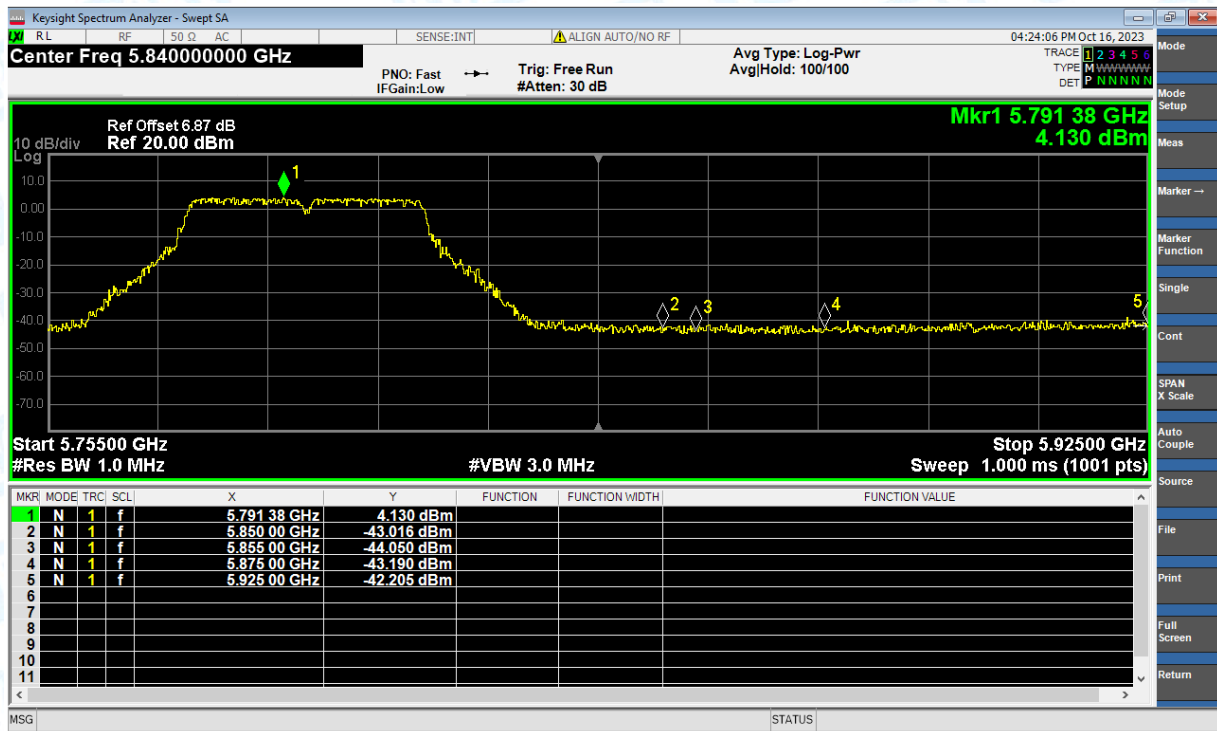




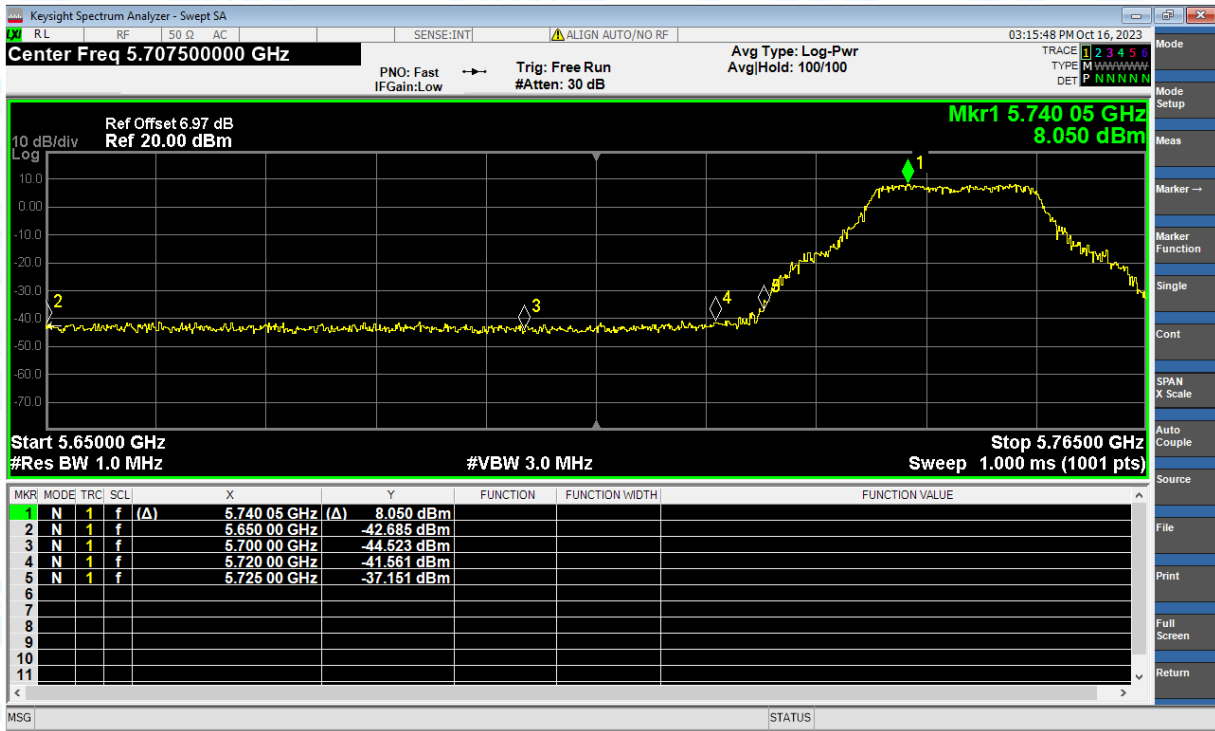
Restrict Band NVNT ac(VHT40) 5755MHz Ant1 Peak



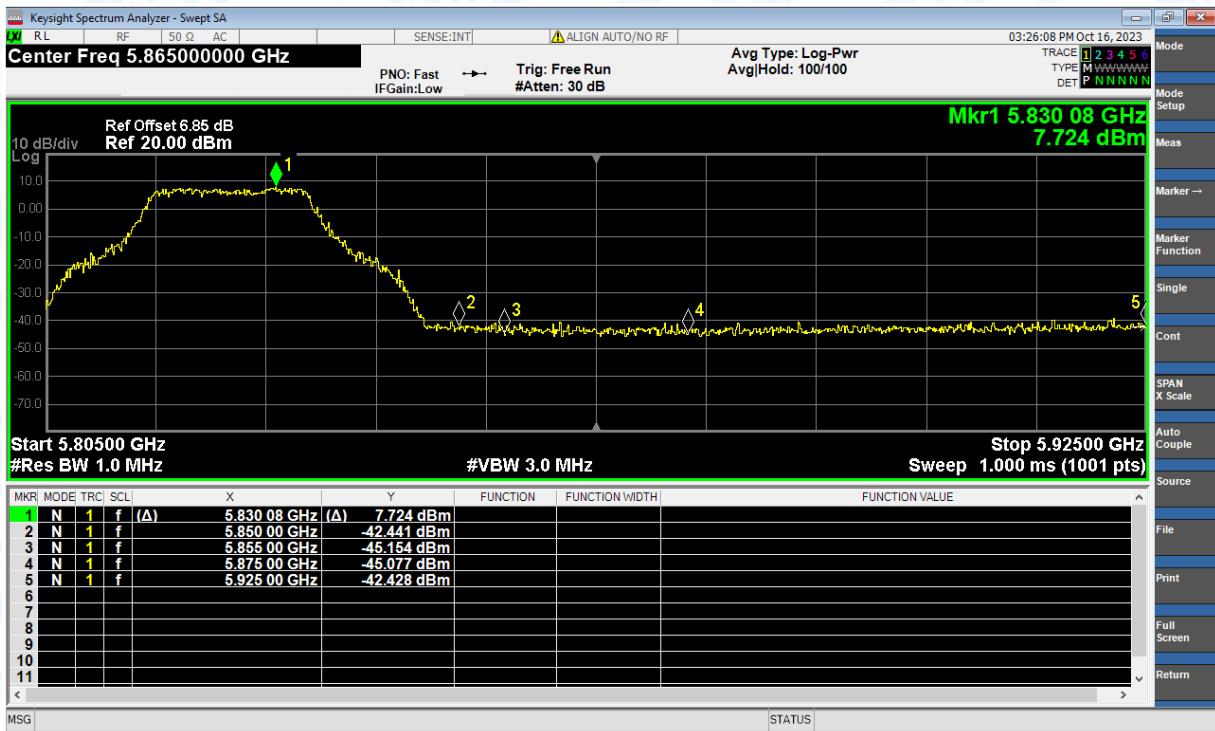
Restrict Band NVNT ac(VHT40) 5795MHz Ant1 Peak



Restrict Band NVNT n(HT20) 5745MHz Ant1 Peak

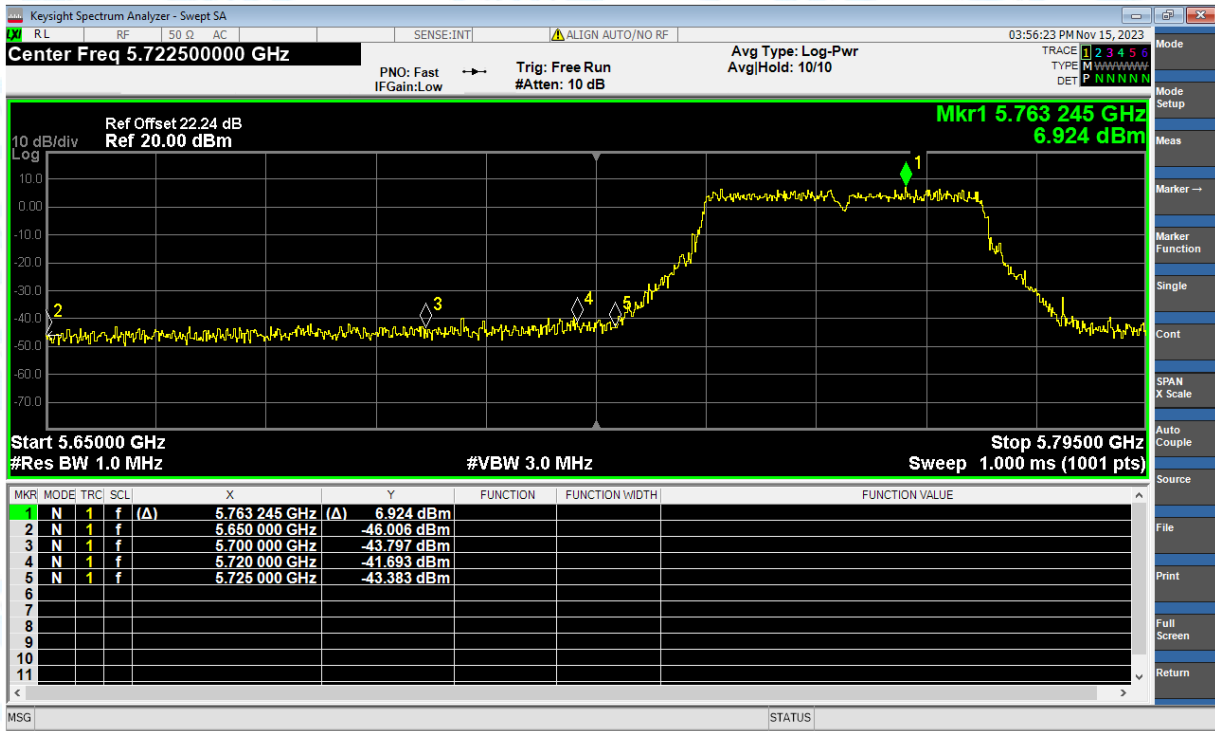


Restrict Band NVNT n(HT20) 5825MHz Ant1 Peak

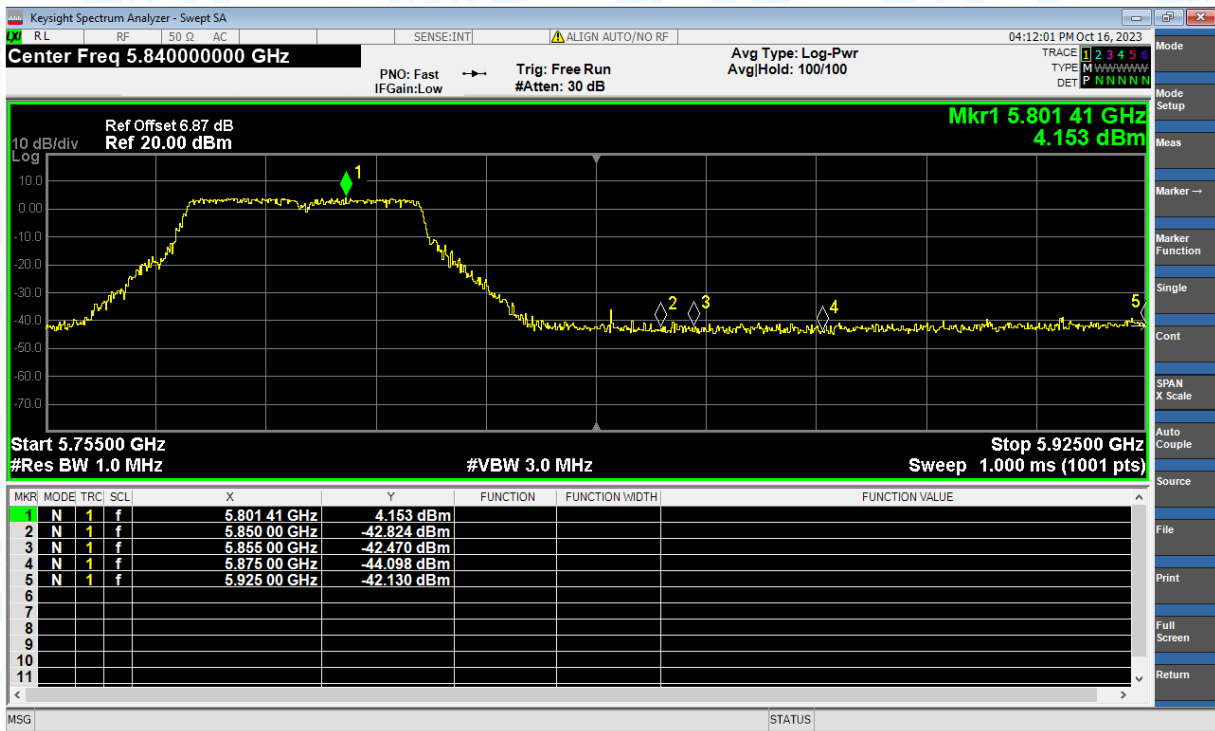




Restrict Band NVNT n(HT40) 5755MHz Ant1 Peak



Restrict Band NVNT n(HT40) 5795MHz Ant1 Peak



-----END OF THE REPORT-----