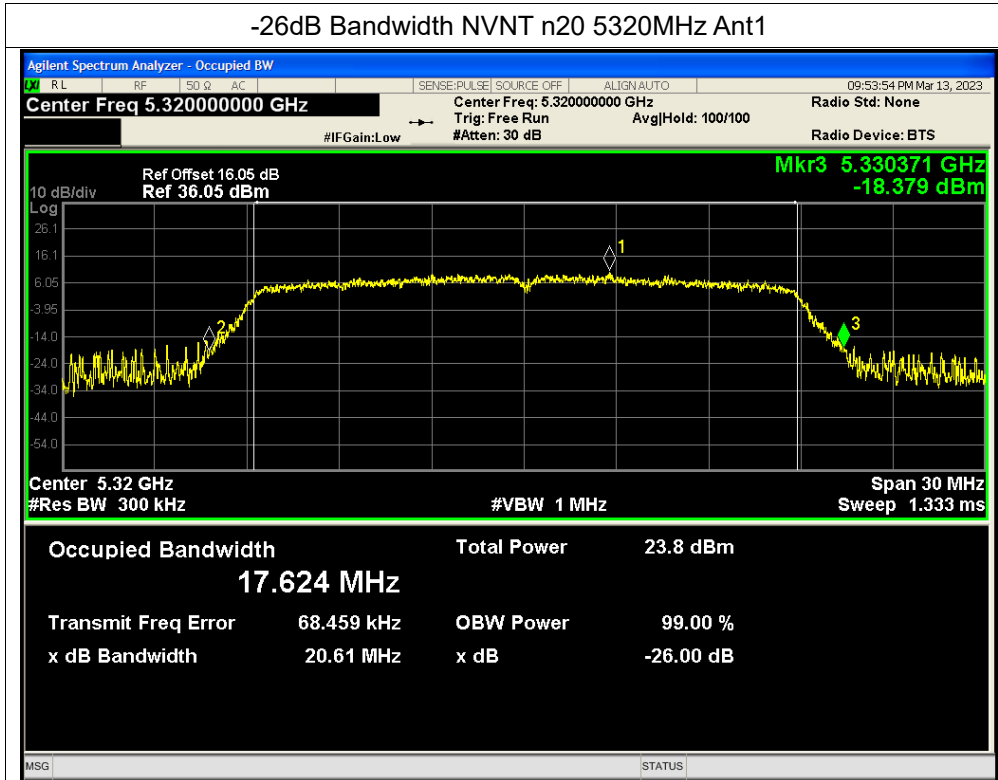
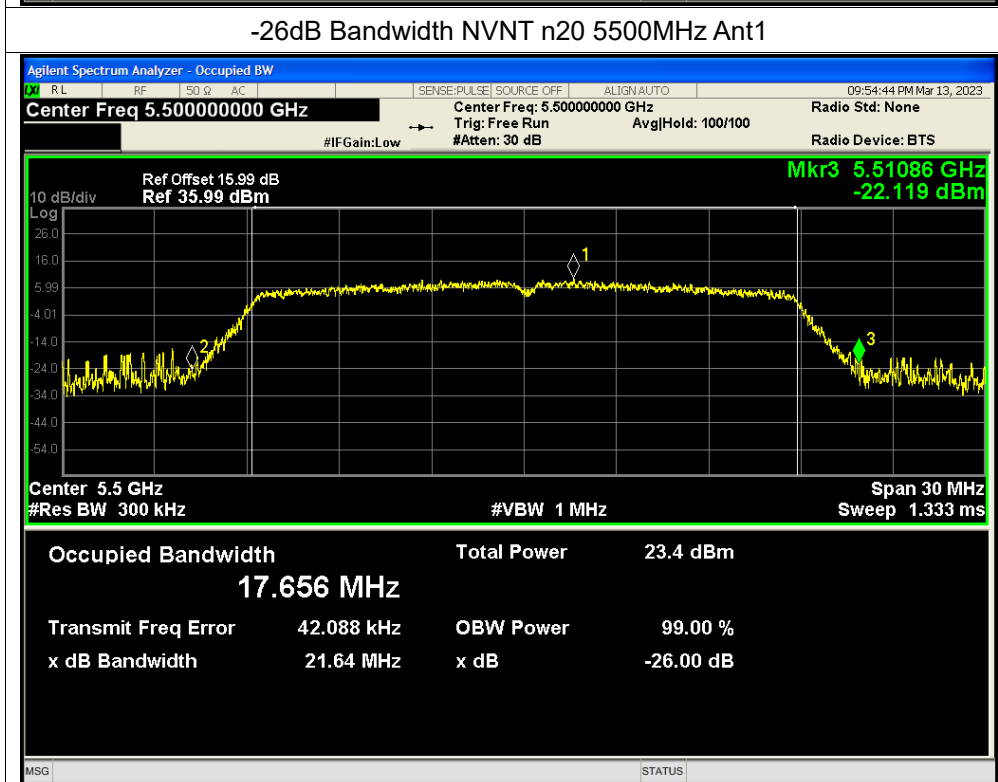




-26dB Bandwidth NVNT n20 5320MHz Ant1

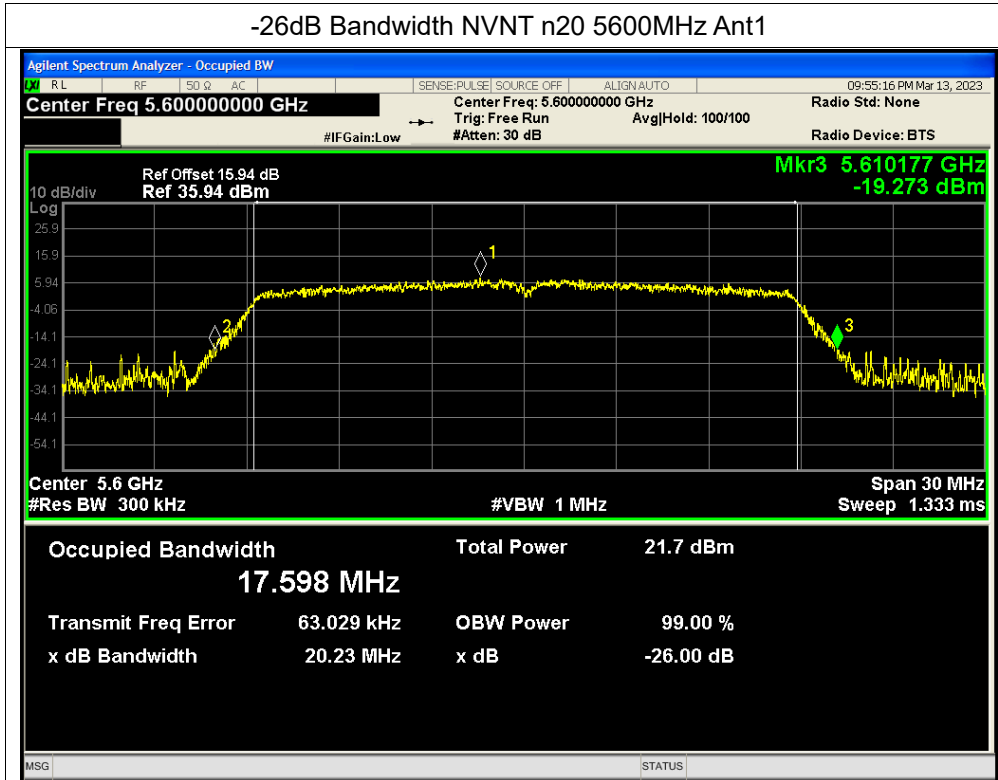


-26dB Bandwidth NVNT n20 5500MHz Ant1

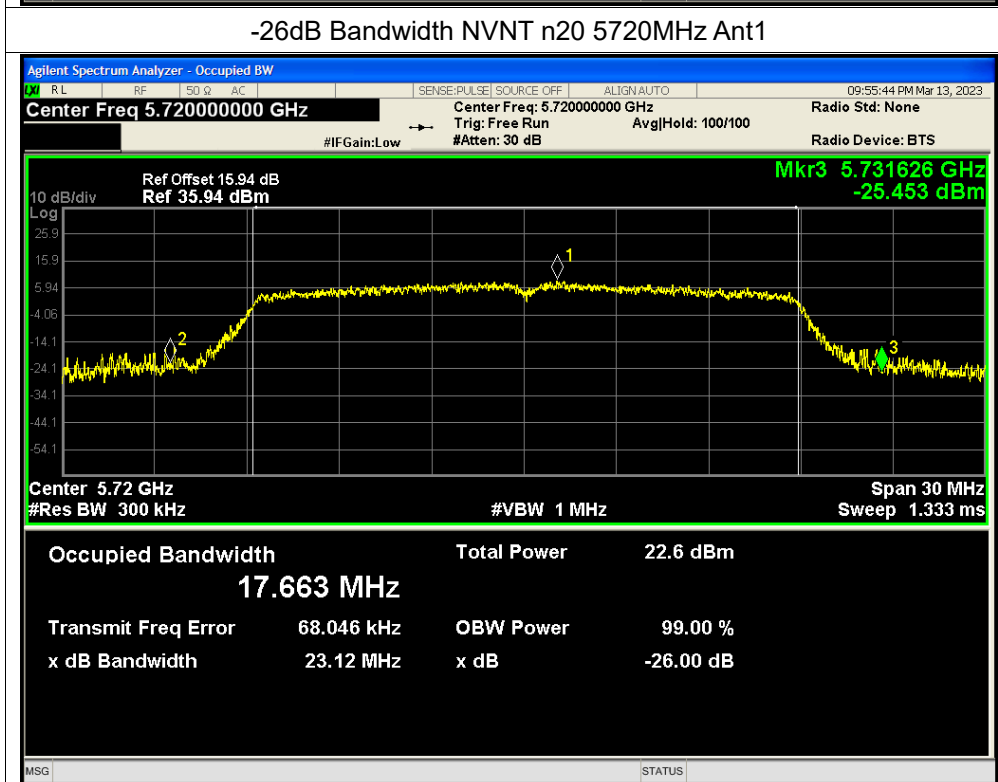




-26dB Bandwidth NVNT n20 5600MHz Ant1

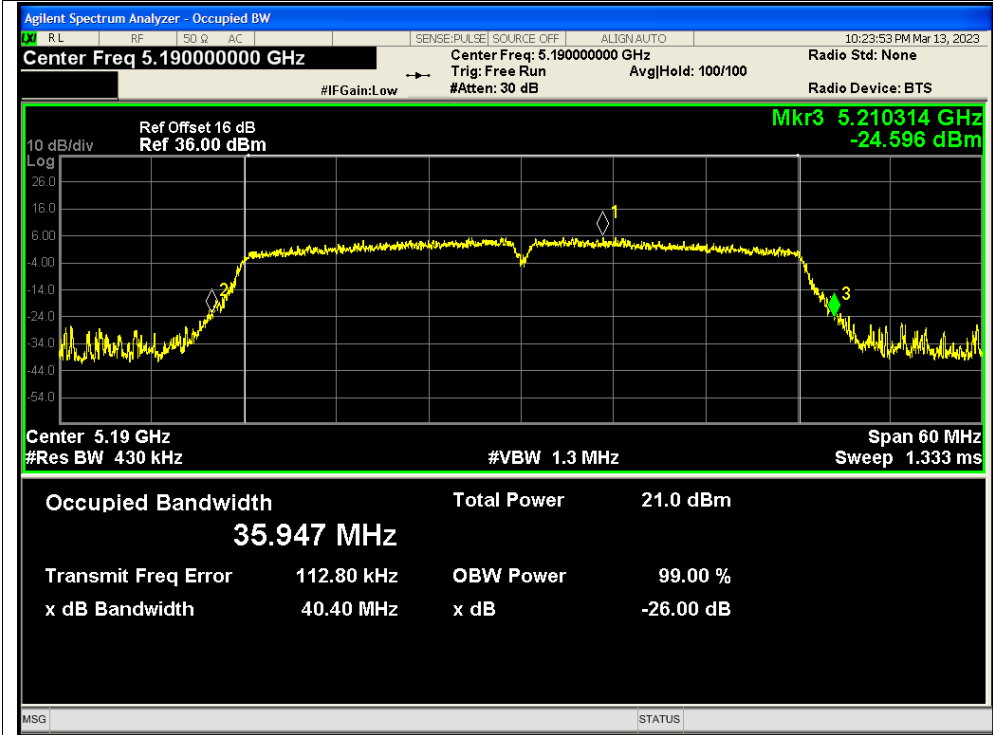


-26dB Bandwidth NVNT n20 5720MHz Ant1

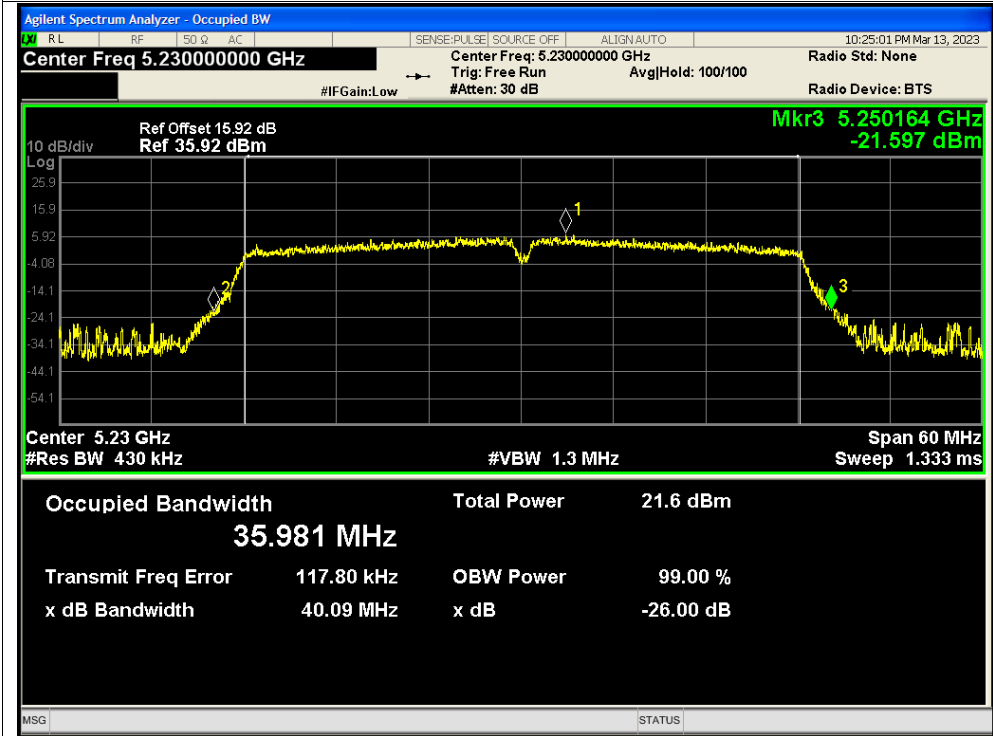




-26dB Bandwidth NVNT n40 5190MHz Ant1

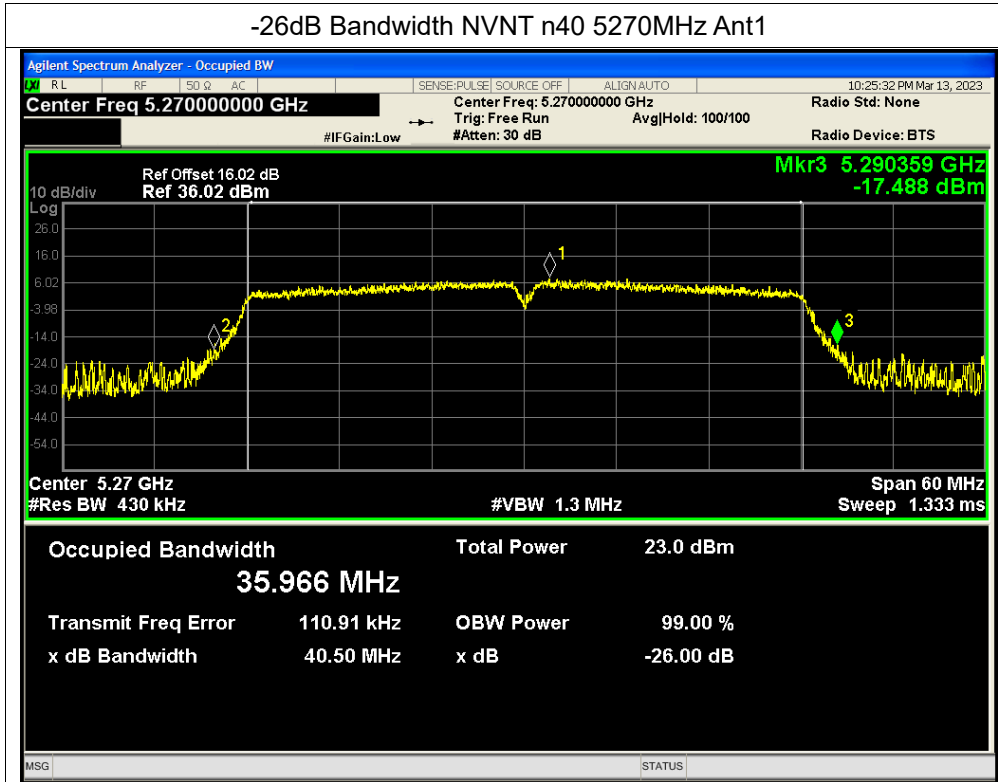


-26dB Bandwidth NVNT n40 5230MHz Ant1

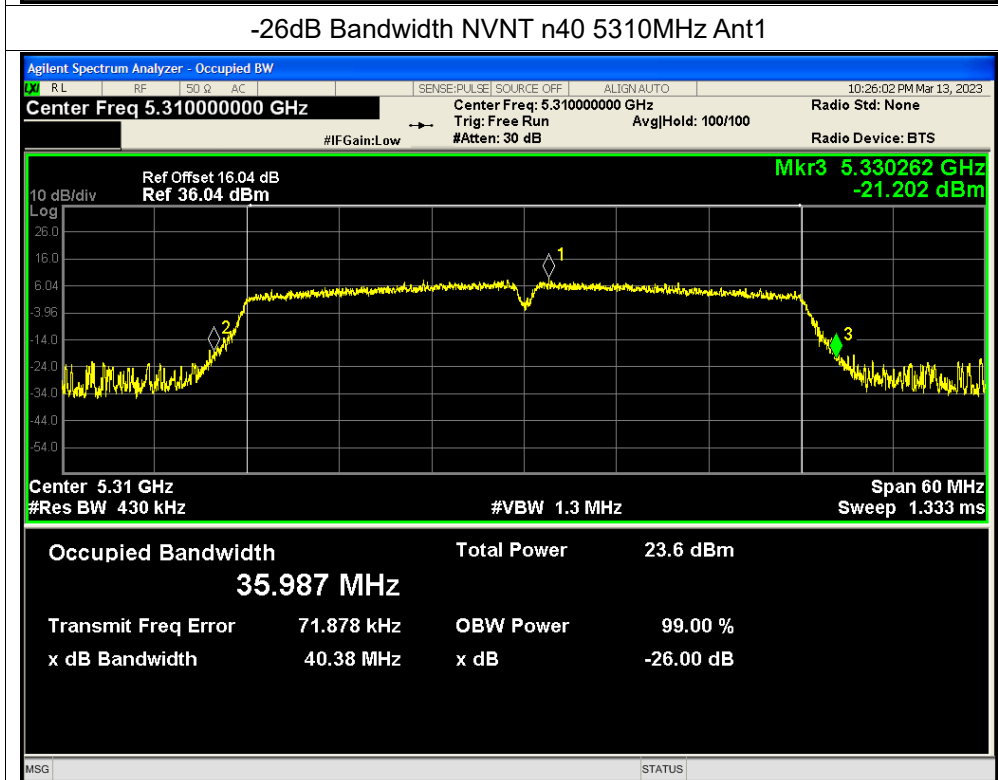




-26dB Bandwidth NVNT n40 5270MHz Ant1

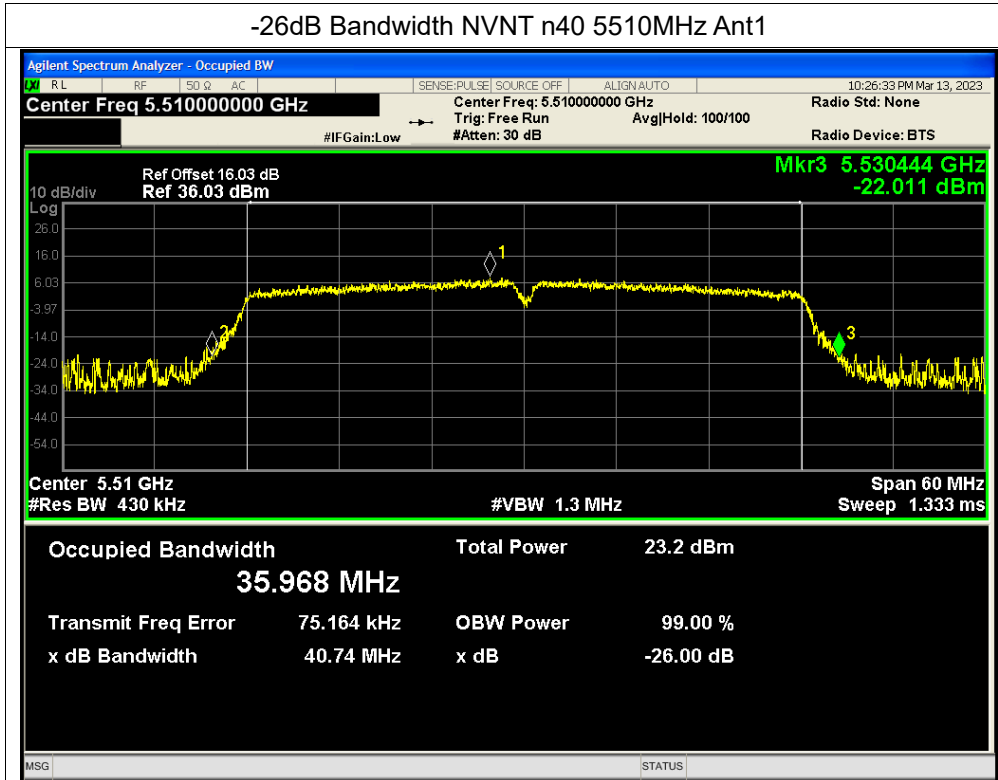


-26dB Bandwidth NVNT n40 5310MHz Ant1

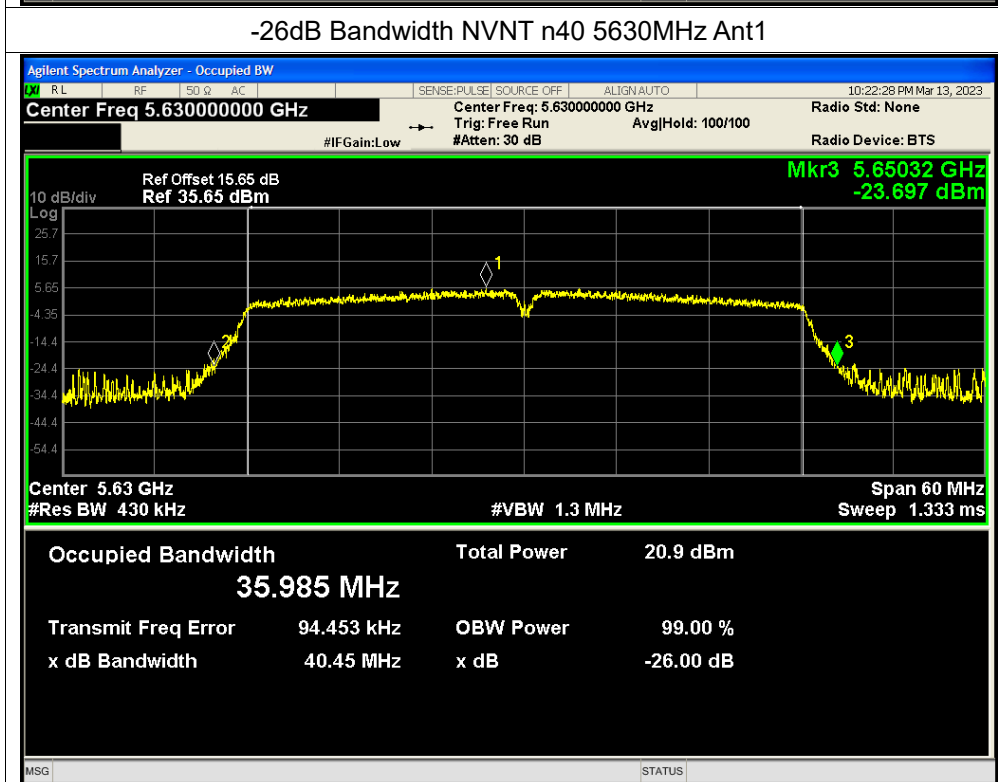




-26dB Bandwidth NVNT n40 5510MHz Ant1

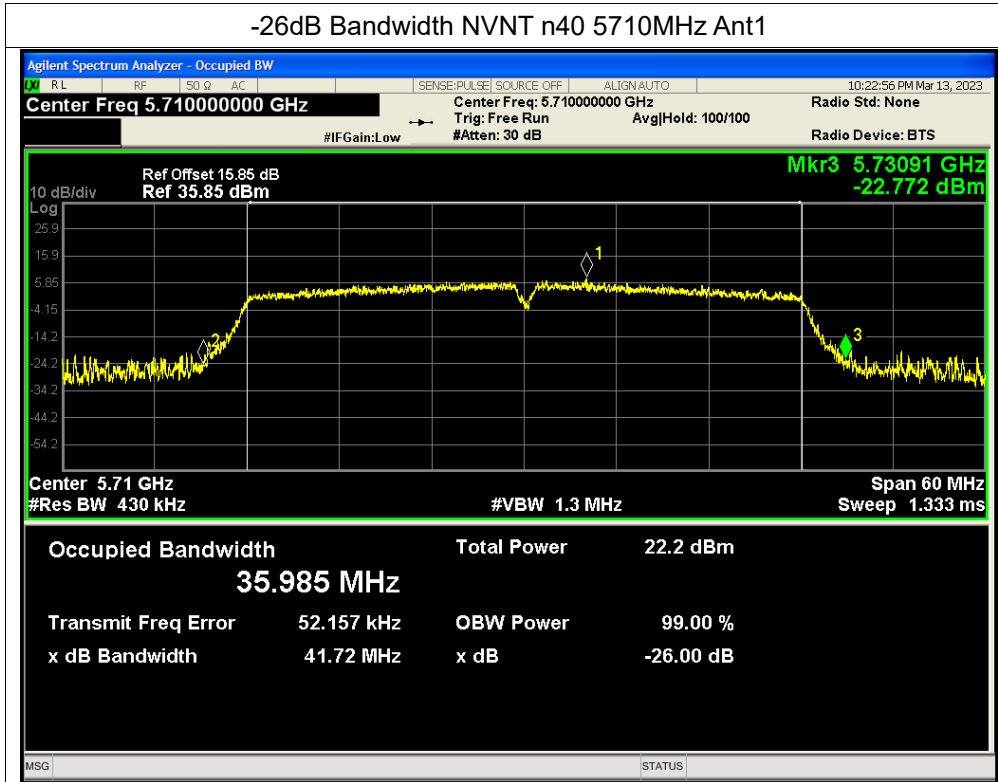


-26dB Bandwidth NVNT n40 5630MHz Ant1

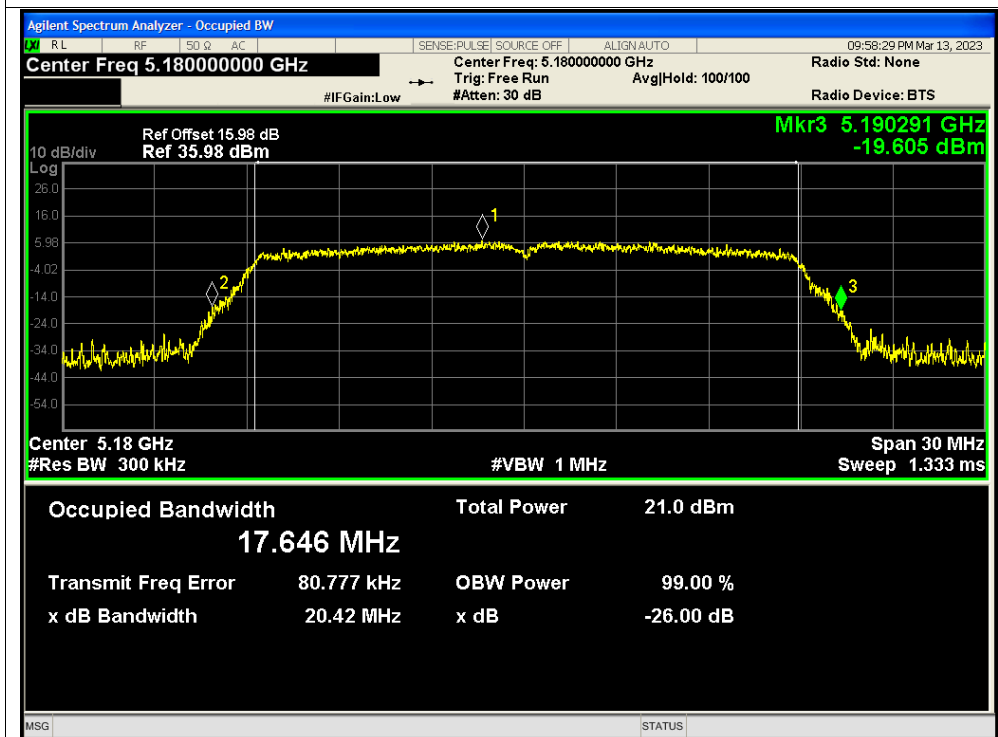




-26dB Bandwidth NVNT n40 5710MHz Ant1

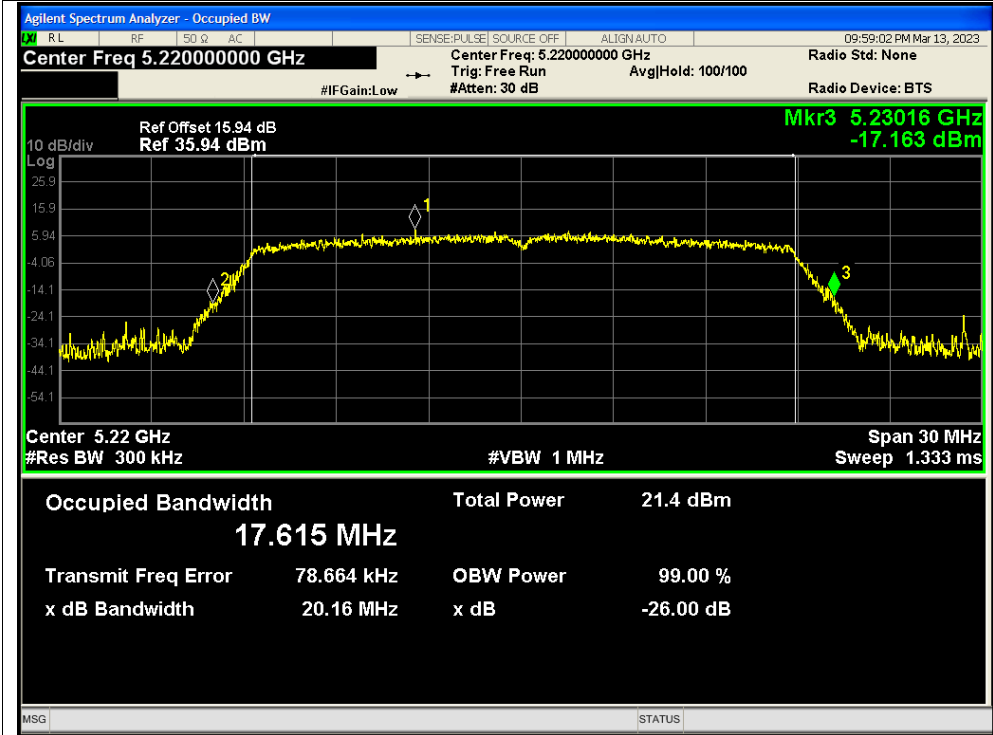


-26dB Bandwidth NVNT ac20 5180MHz Ant1

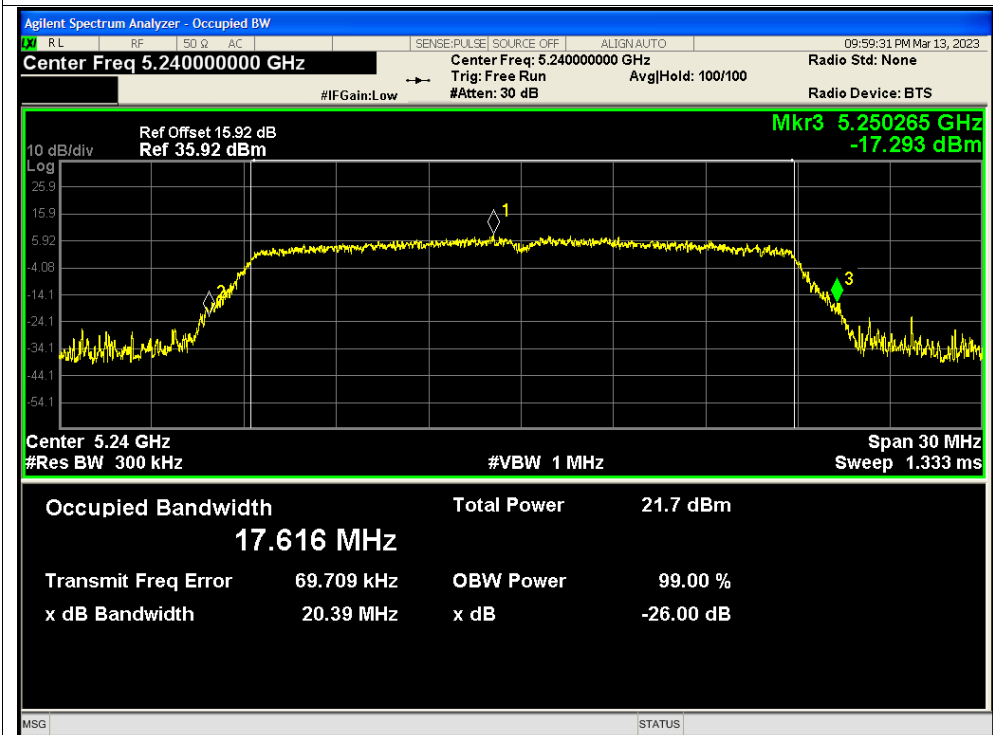




-26dB Bandwidth NVNT ac20 5220MHz Ant1

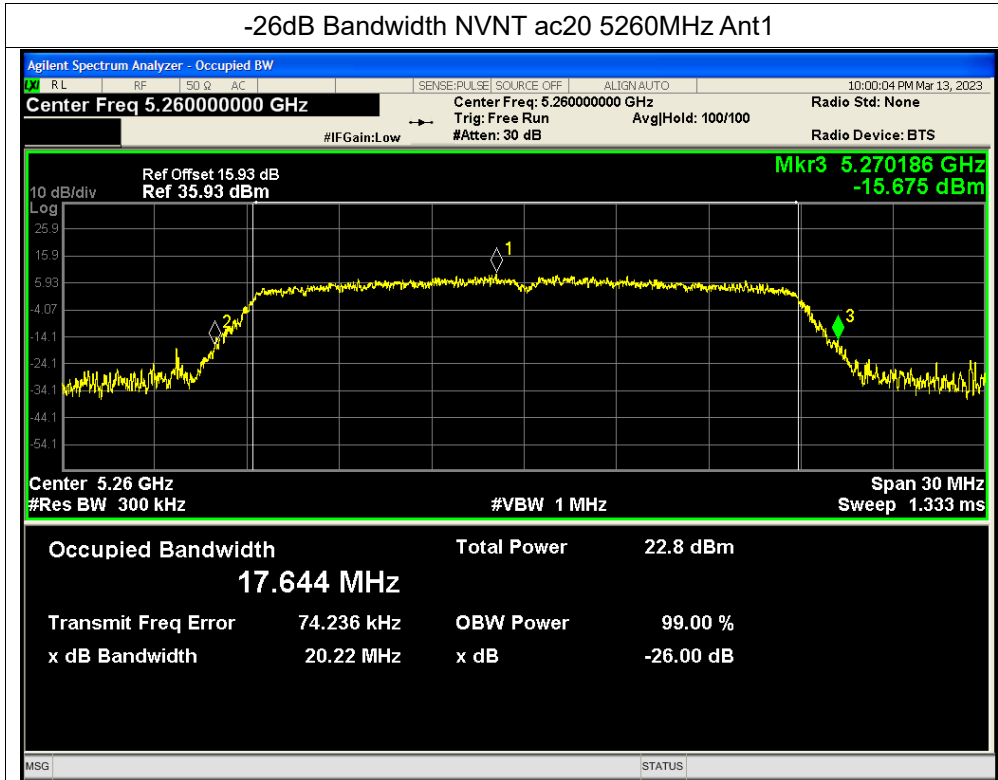


-26dB Bandwidth NVNT ac20 5240MHz Ant1

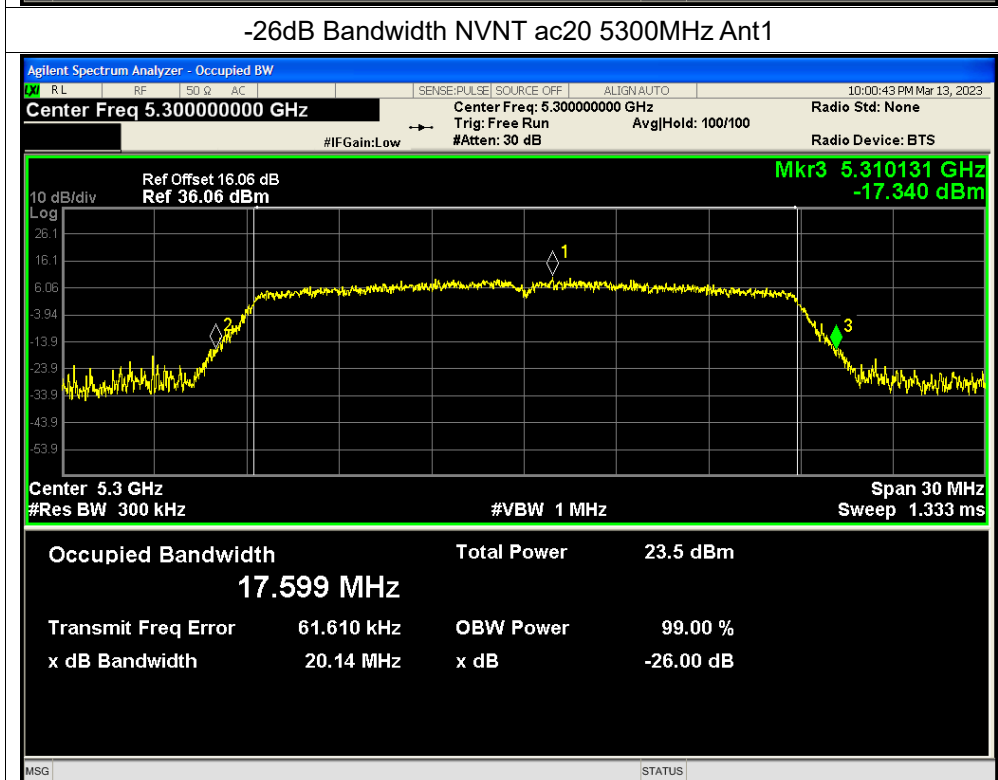




-26dB Bandwidth NVNT ac20 5260MHz Ant1

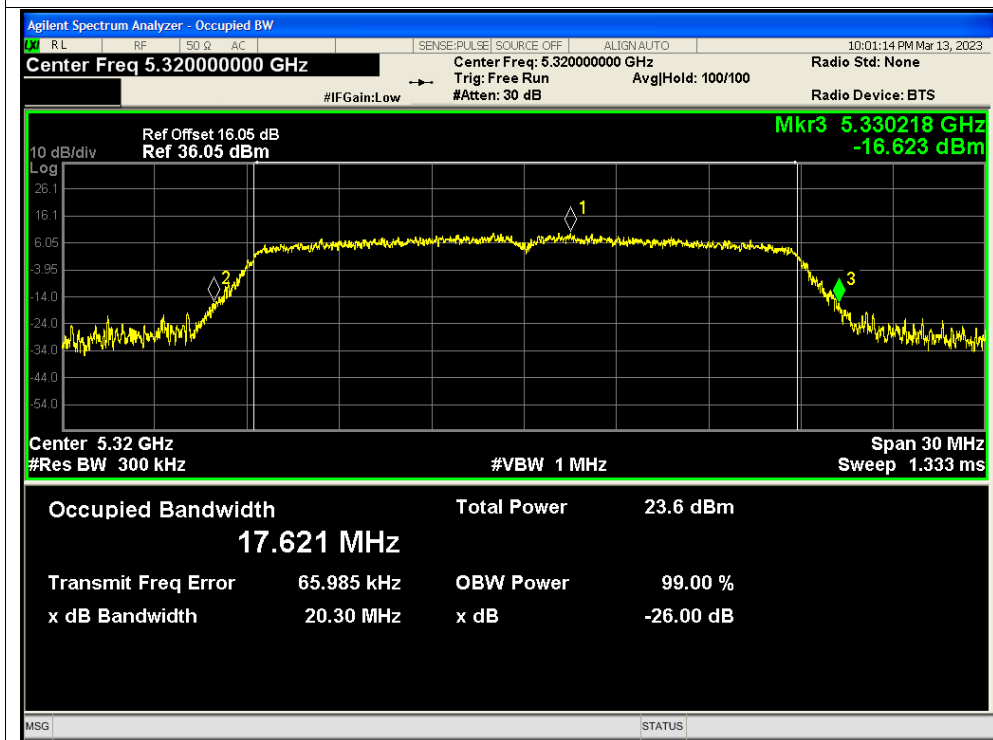


-26dB Bandwidth NVNT ac20 5300MHz Ant1

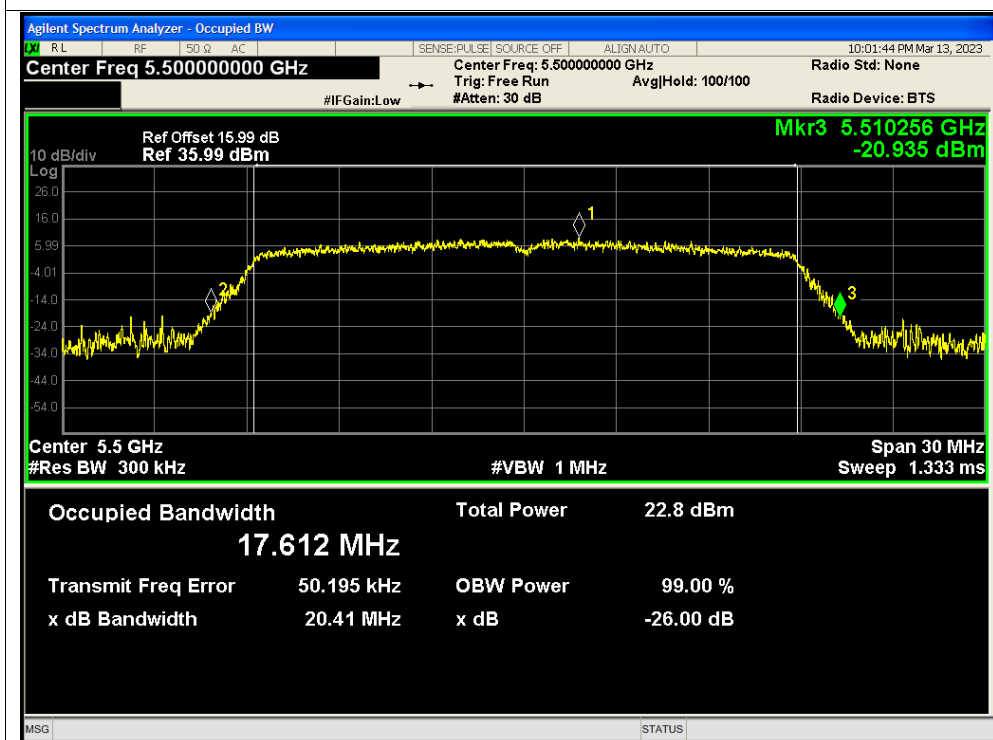




-26dB Bandwidth NVNT ac20 5320MHz Ant1

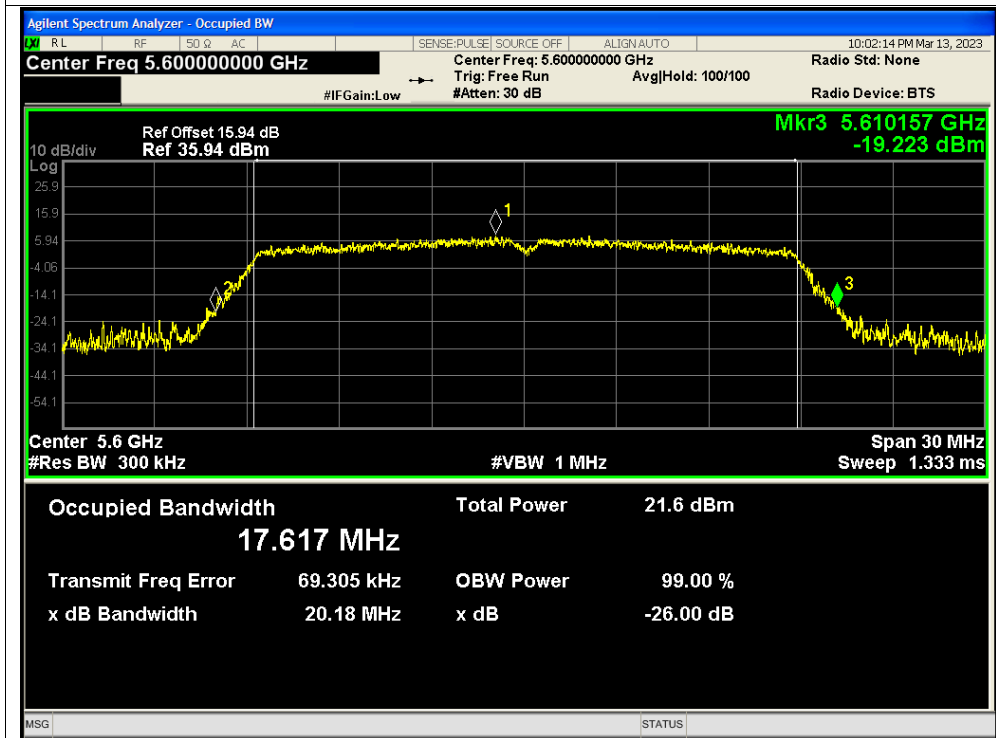


-26dB Bandwidth NVNT ac20 5500MHz Ant1

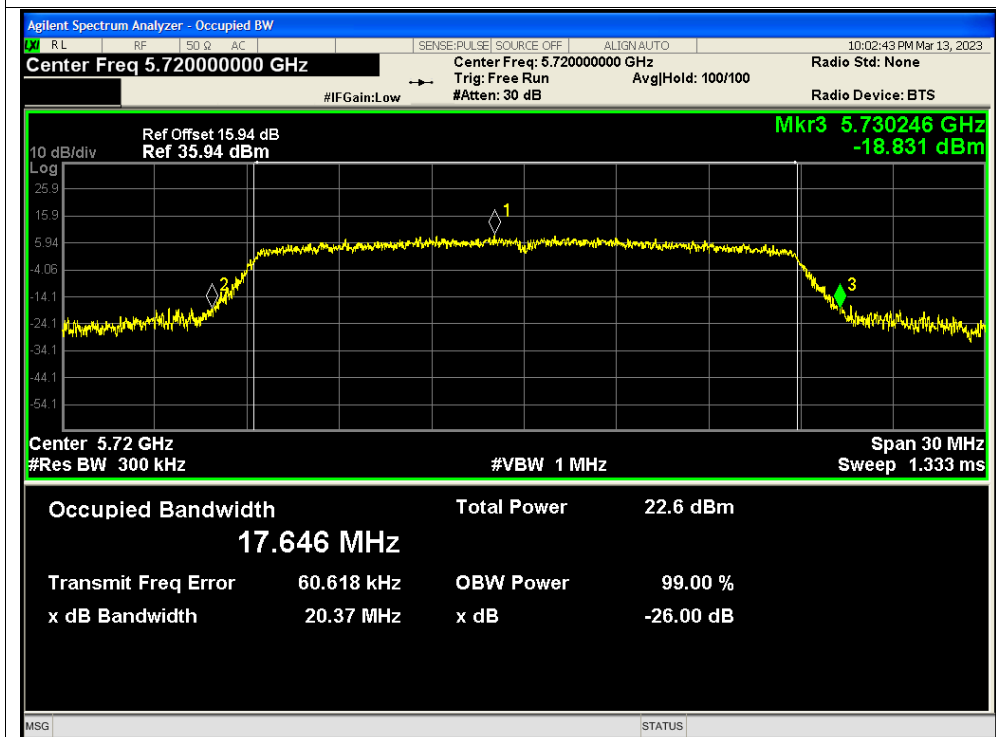




-26dB Bandwidth NVNT ac20 5600MHz Ant1

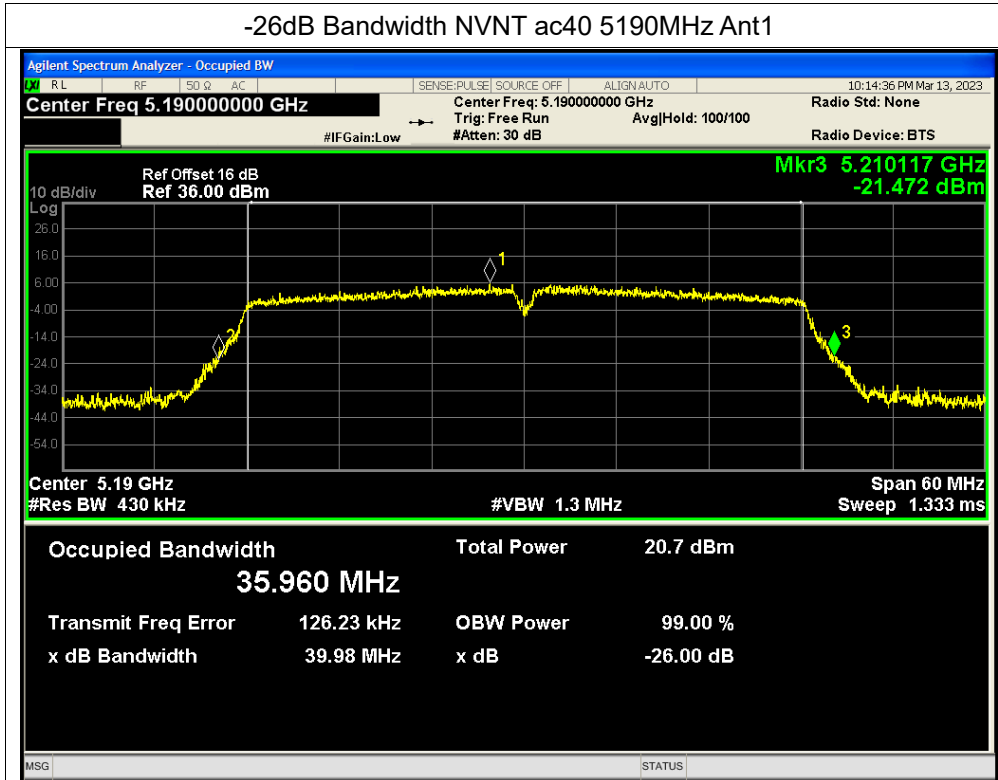


-26dB Bandwidth NVNT ac20 5720MHz Ant1

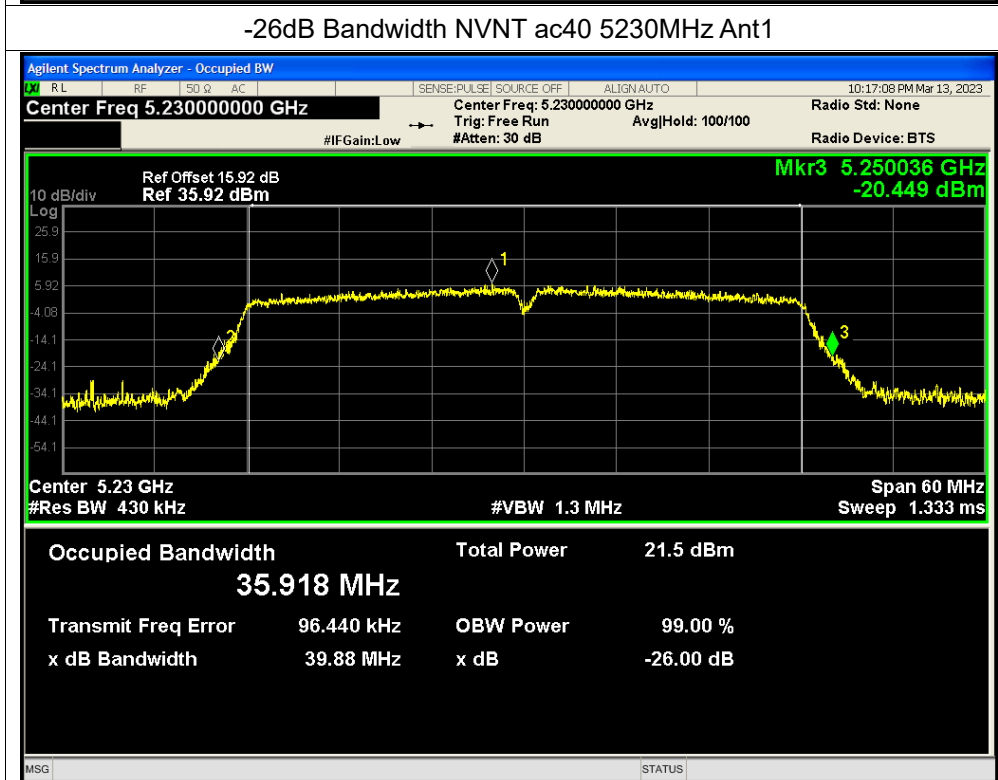




-26dB Bandwidth NVNT ac40 5190MHz Ant1

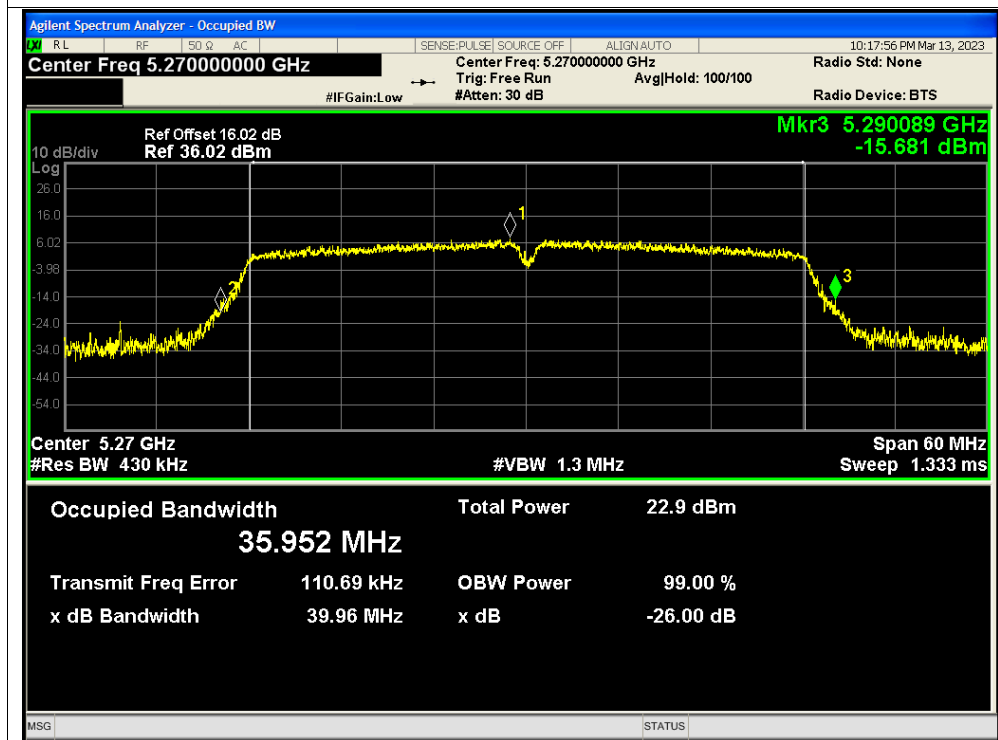


-26dB Bandwidth NVNT ac40 5230MHz Ant1

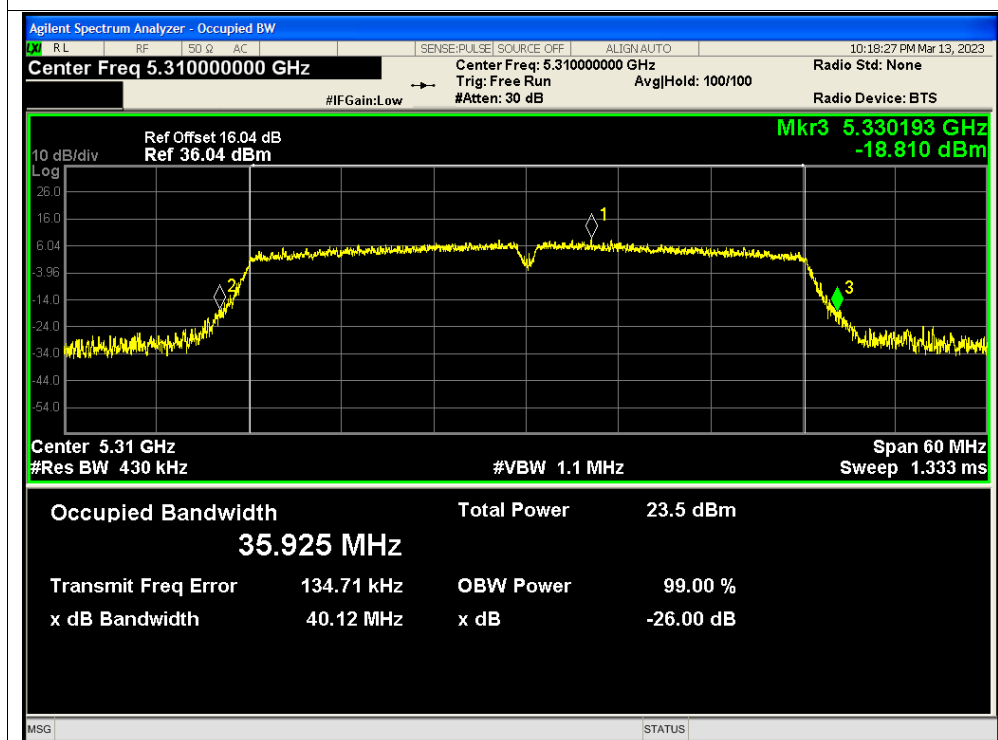




-26dB Bandwidth NVNT ac40 5270MHz Ant1

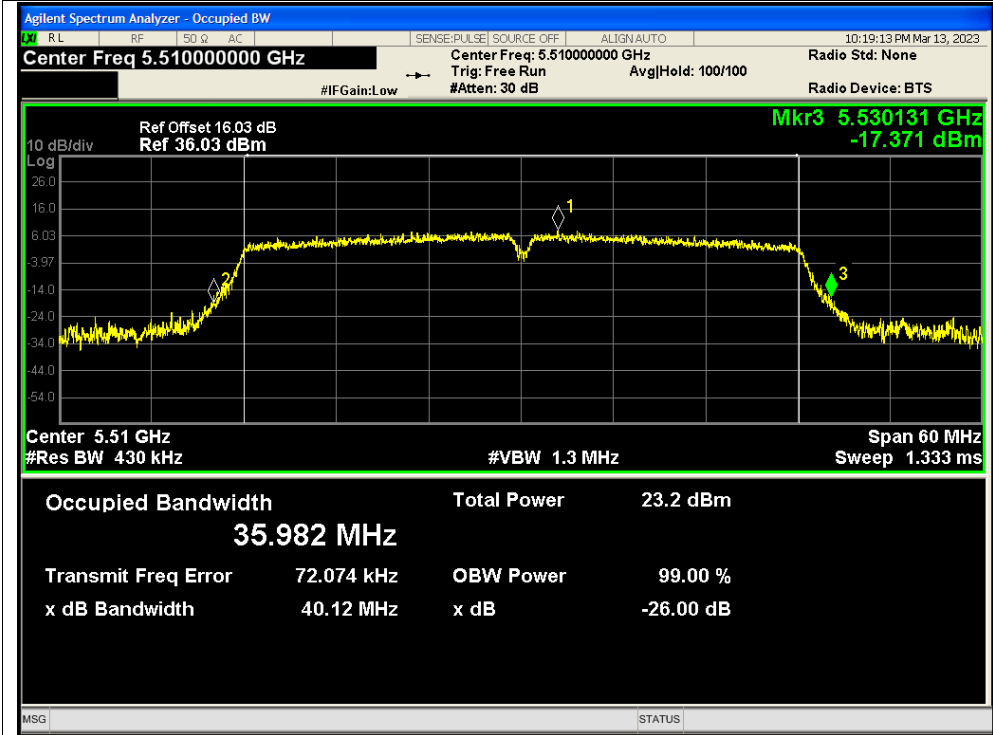


-26dB Bandwidth NVNT ac40 5310MHz Ant1

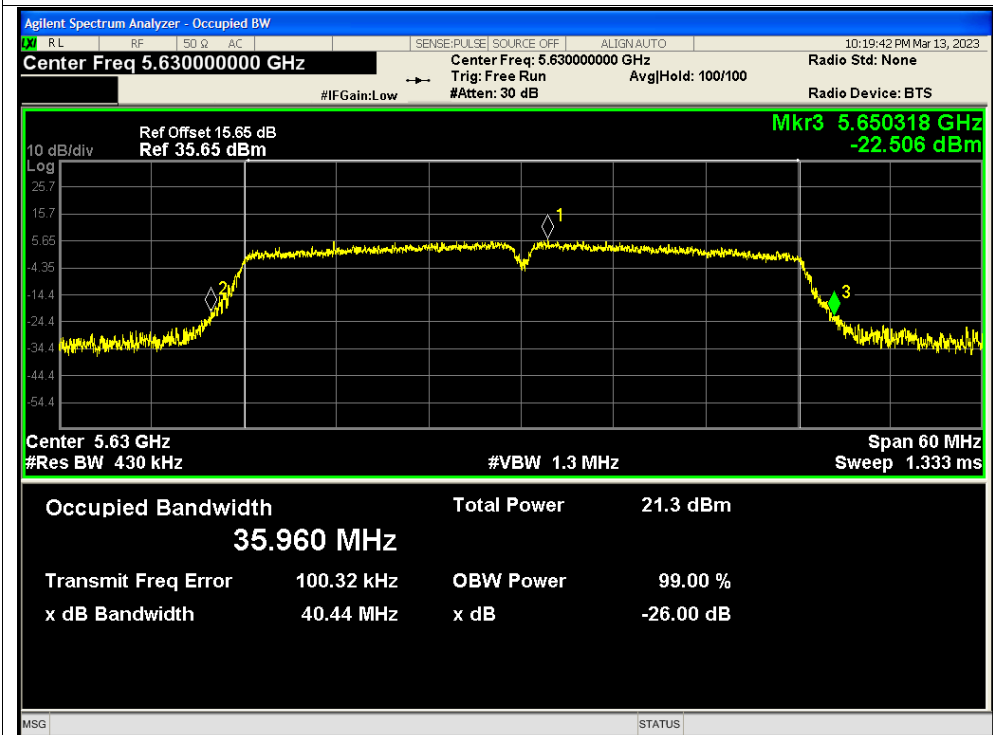


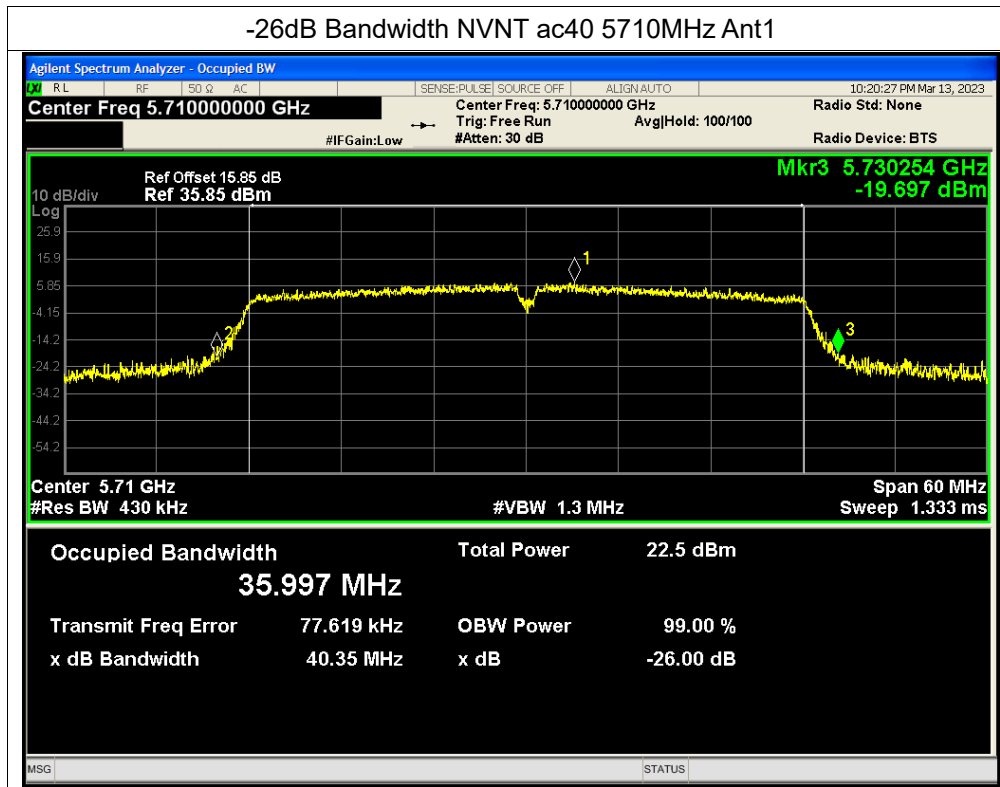


-26dB Bandwidth NVNT ac40 5510MHz Ant1



-26dB Bandwidth NVNT ac40 5630MHz Ant1

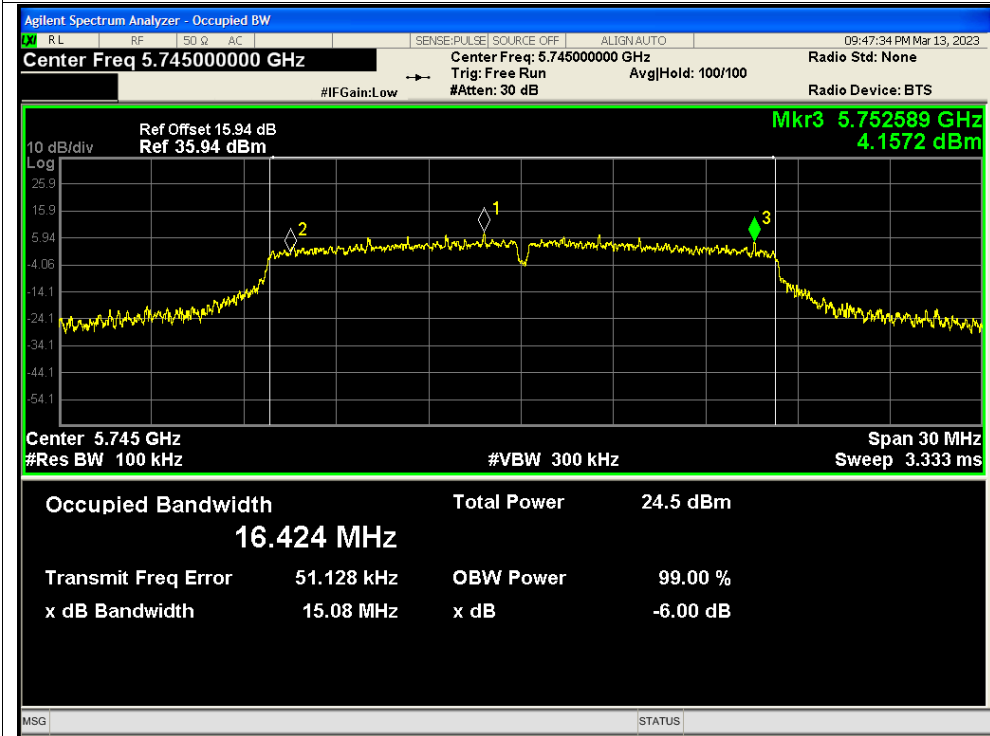




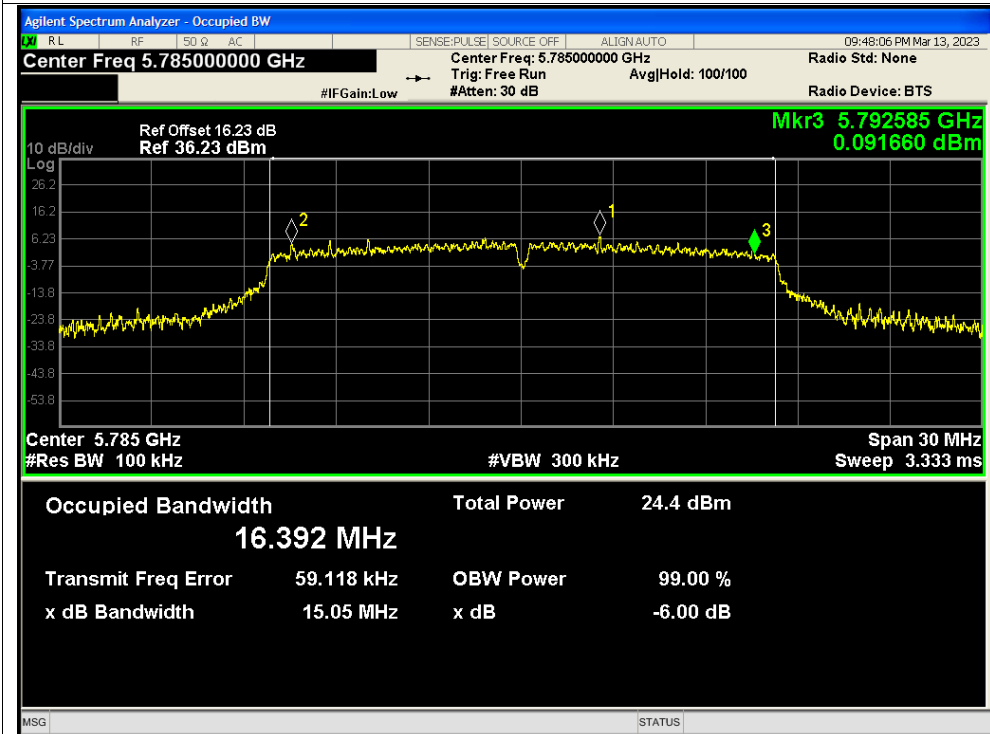


Test Graphs

-6dB Bandwidth NVNT a 5745MHz Ant1

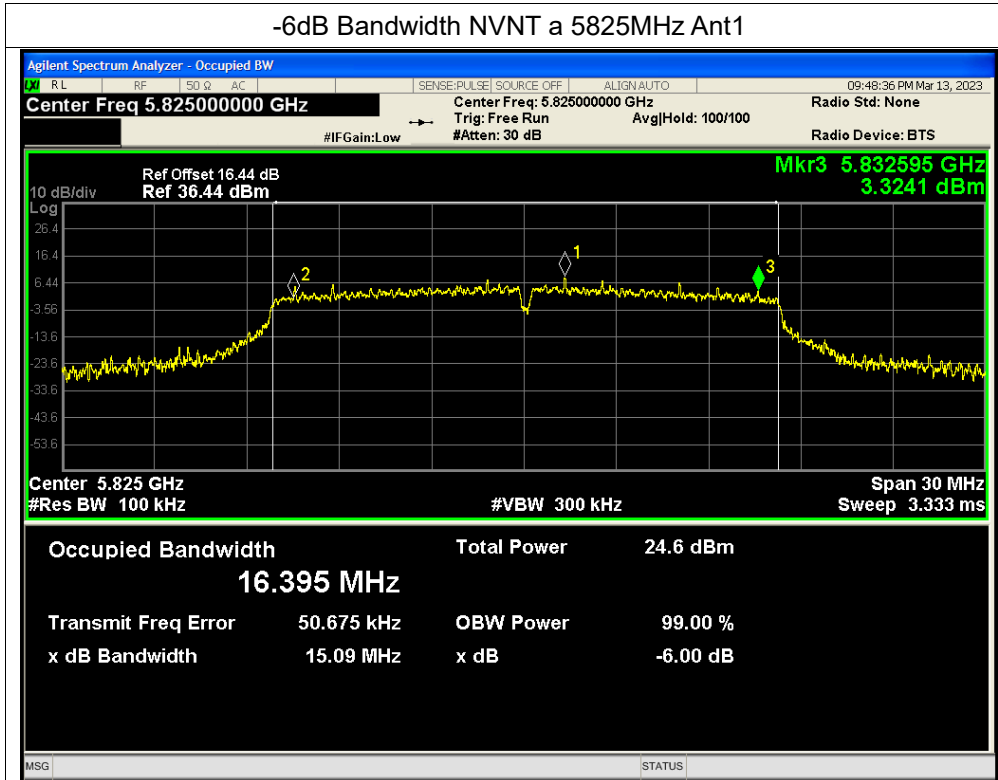


-6dB Bandwidth NVNT a 5785MHz Ant1

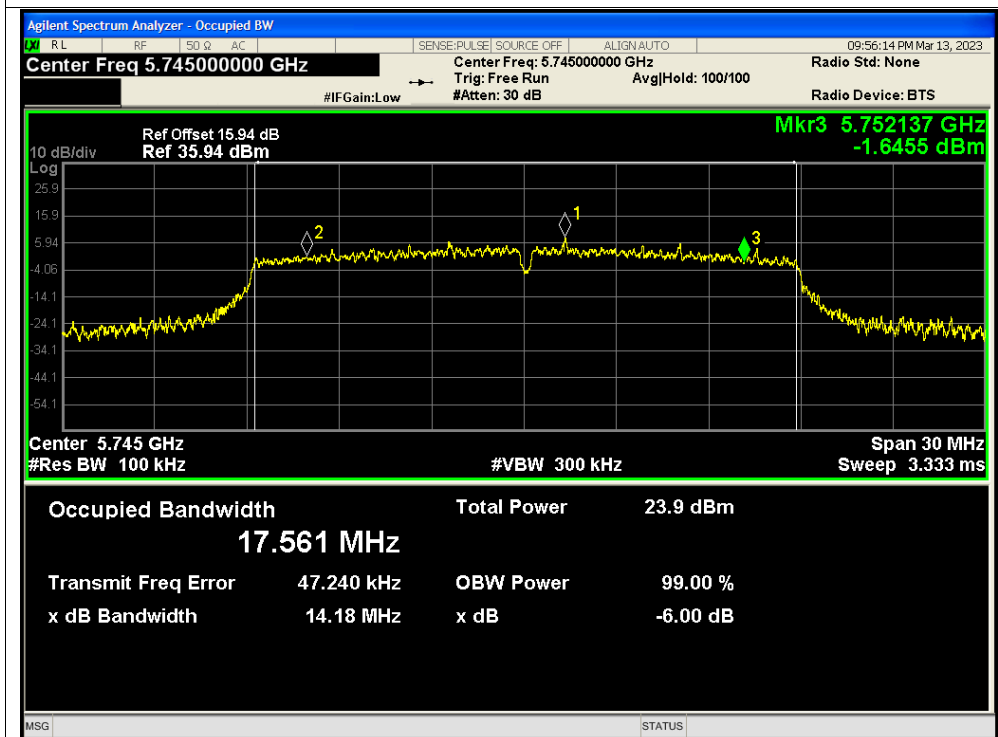




-6dB Bandwidth NVNT a 5825MHz Ant1

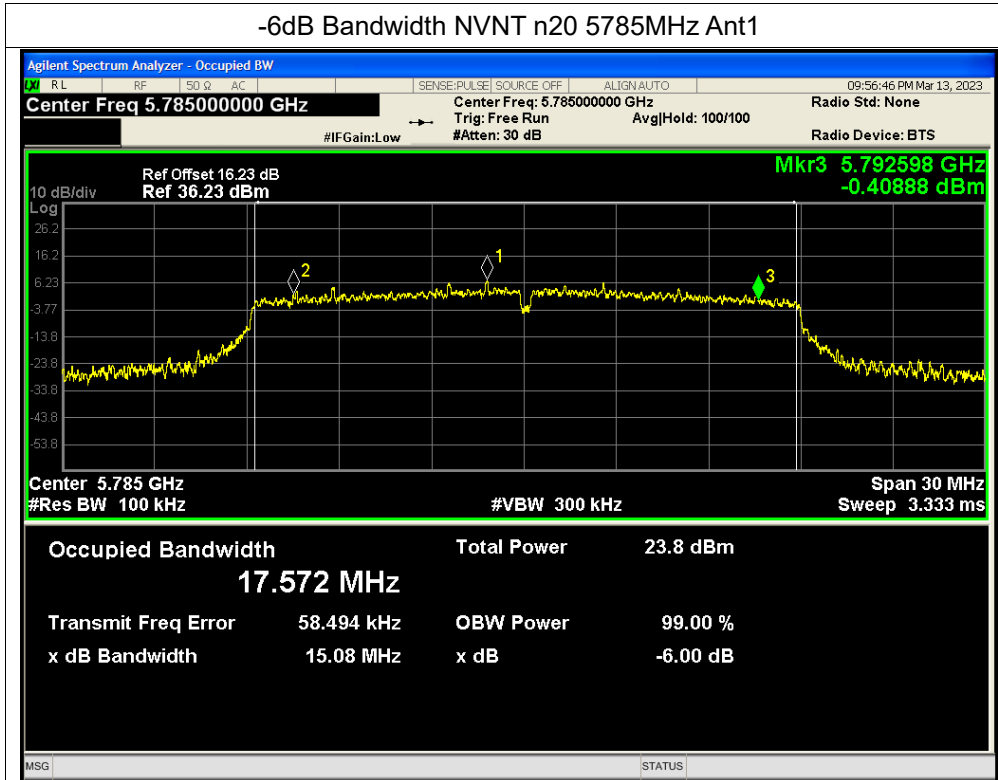


-6dB Bandwidth NVNT n20 5745MHz Ant1

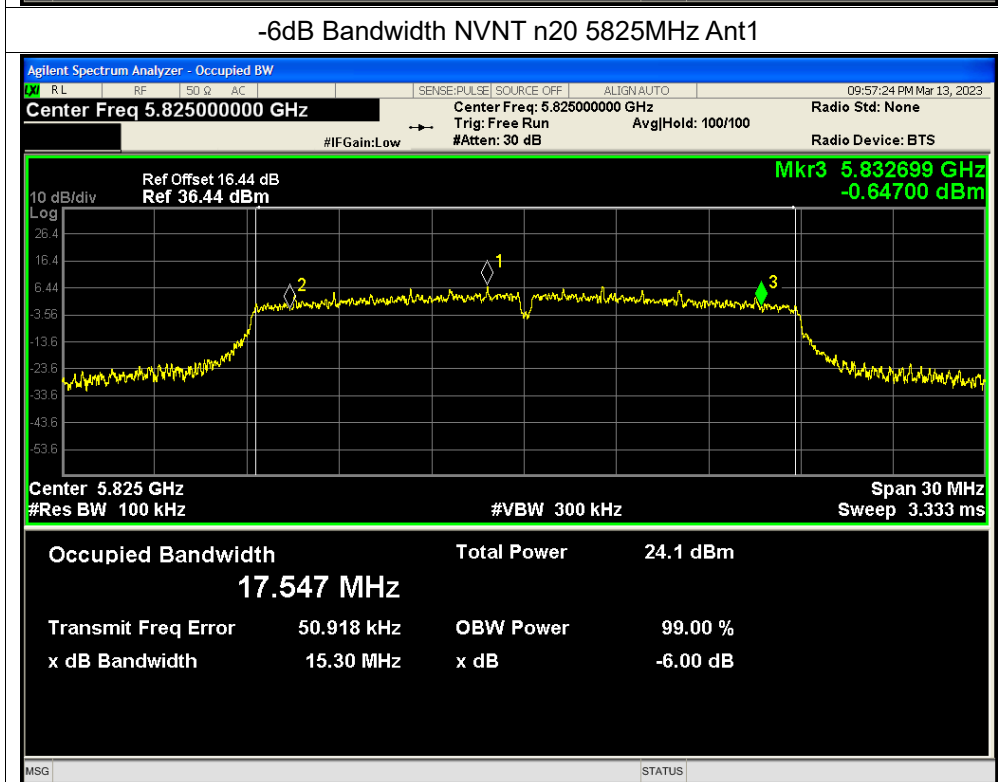




-6dB Bandwidth NVNT n20 5785MHz Ant1

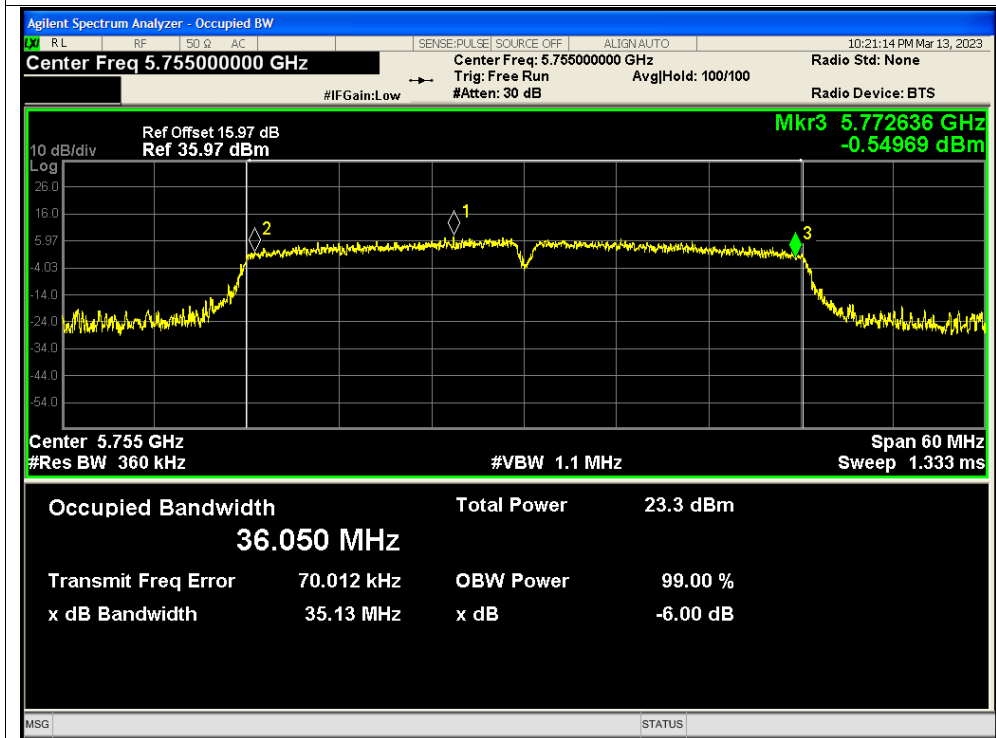


-6dB Bandwidth NVNT n20 5825MHz Ant1

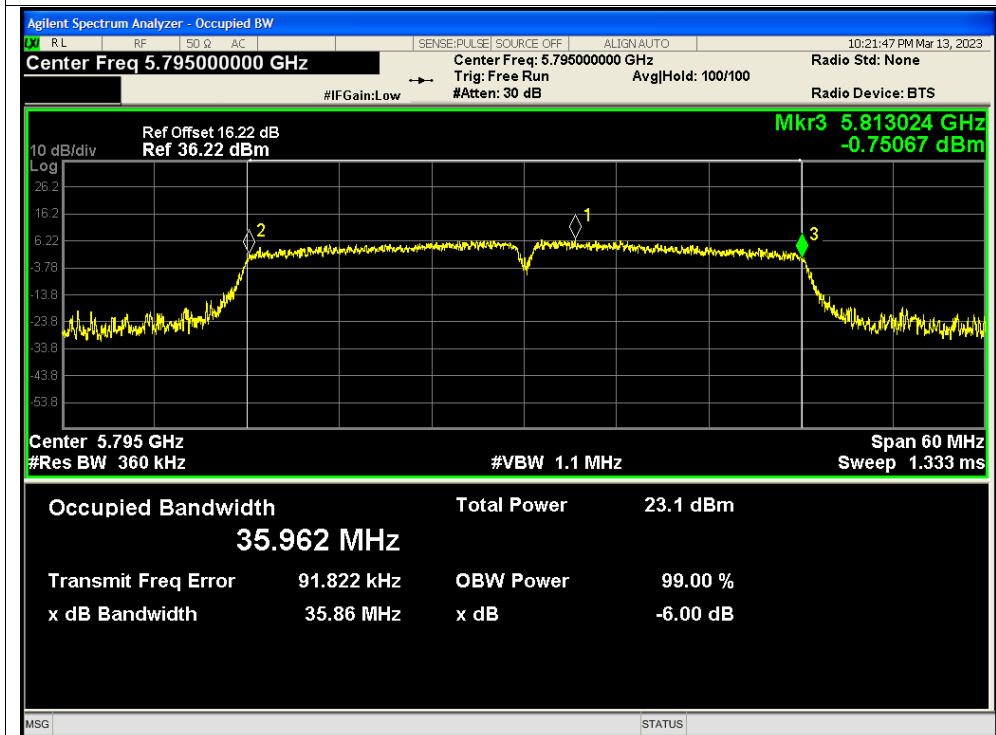




-6dB Bandwidth NVNT n40 5755MHz Ant1

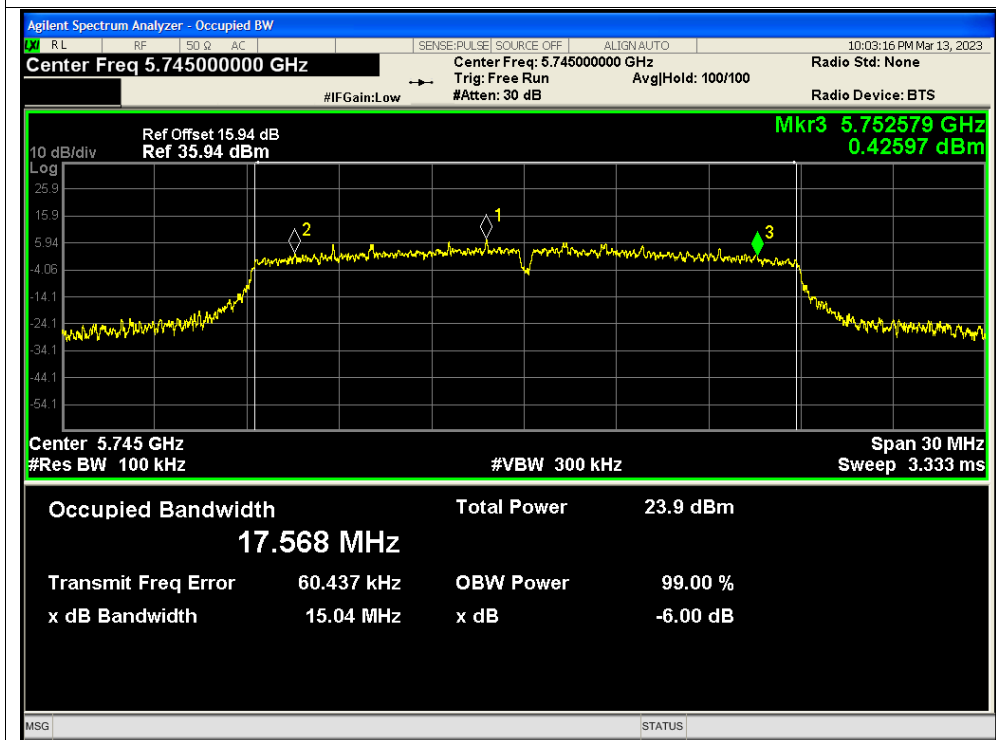


-6dB Bandwidth NVNT n40 5795MHz Ant1

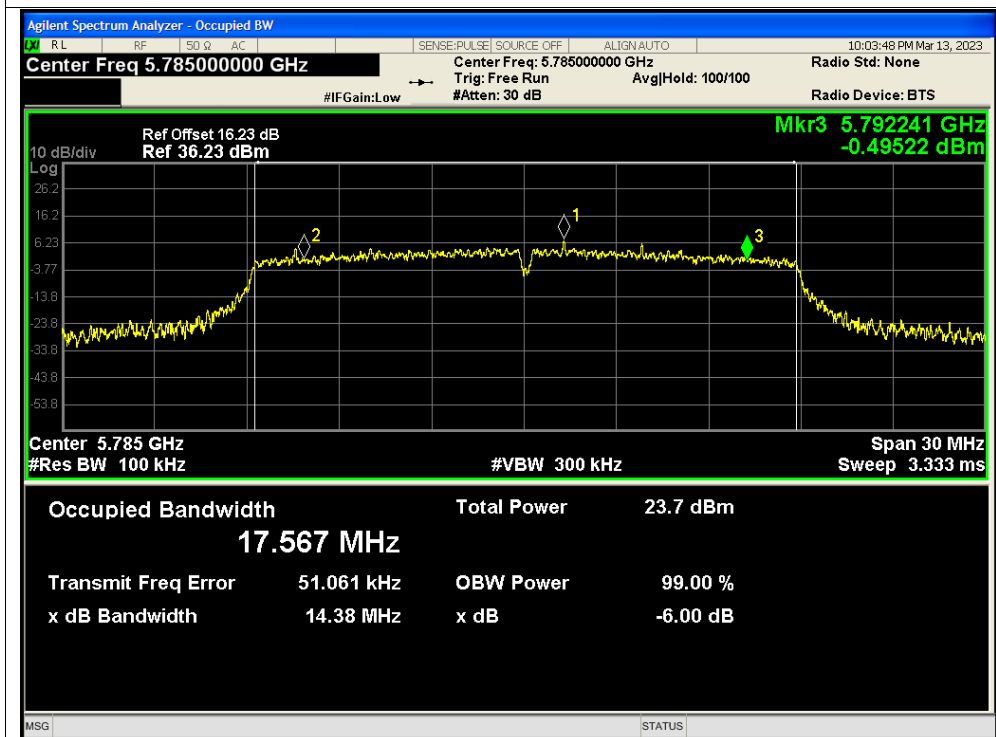




-6dB Bandwidth NVNT ac20 5745MHz Ant1

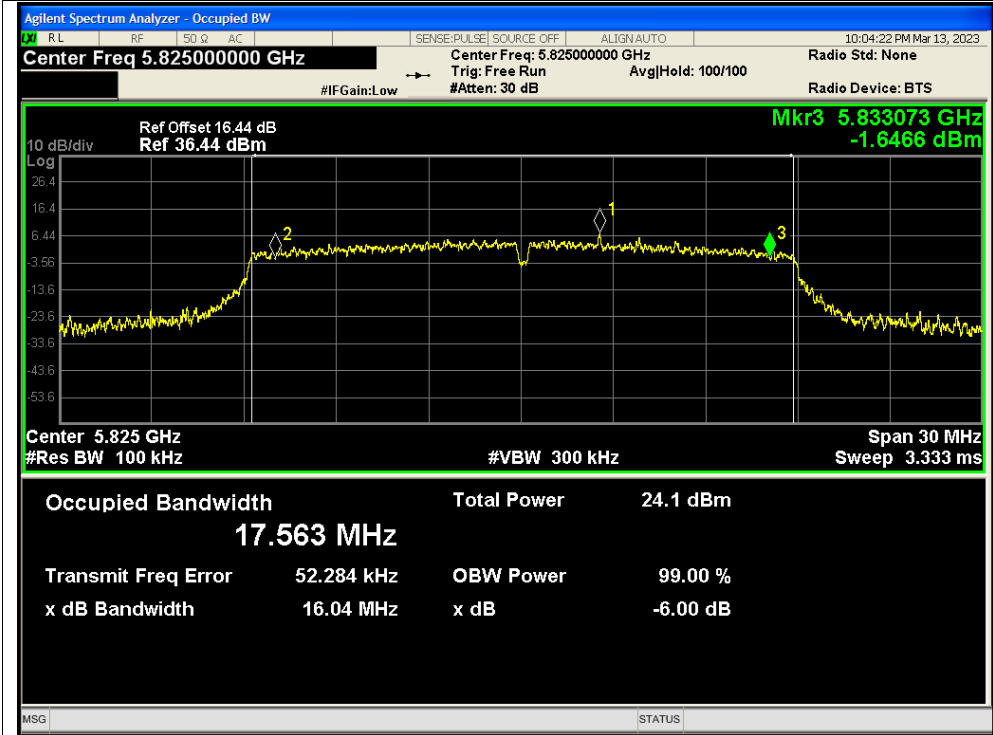


-6dB Bandwidth NVNT ac20 5785MHz Ant1

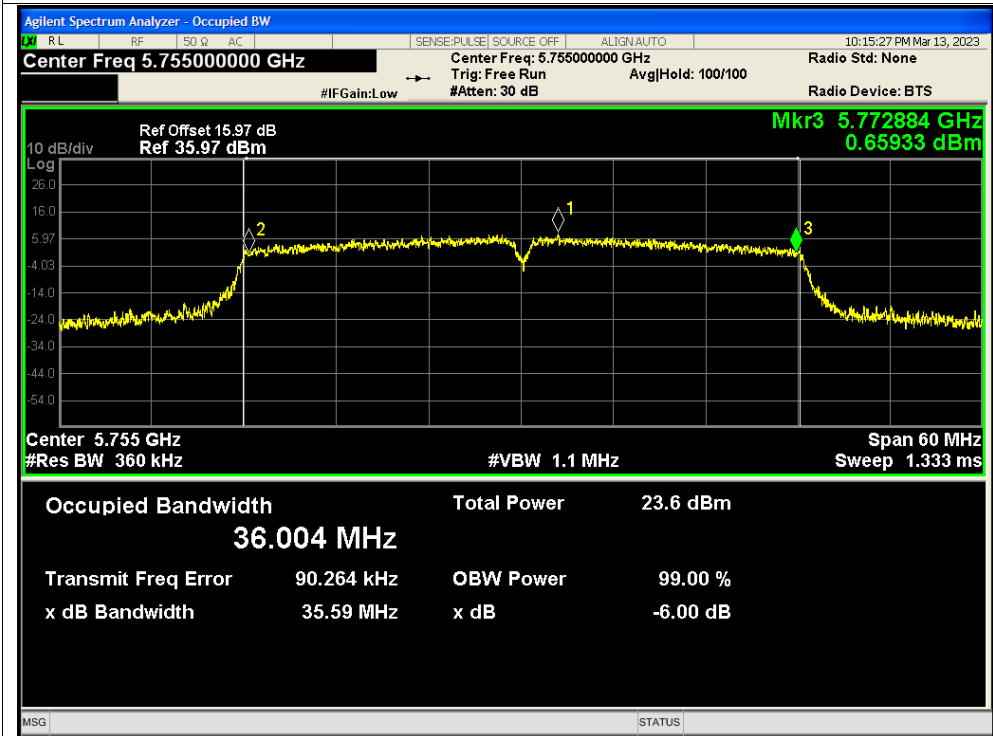


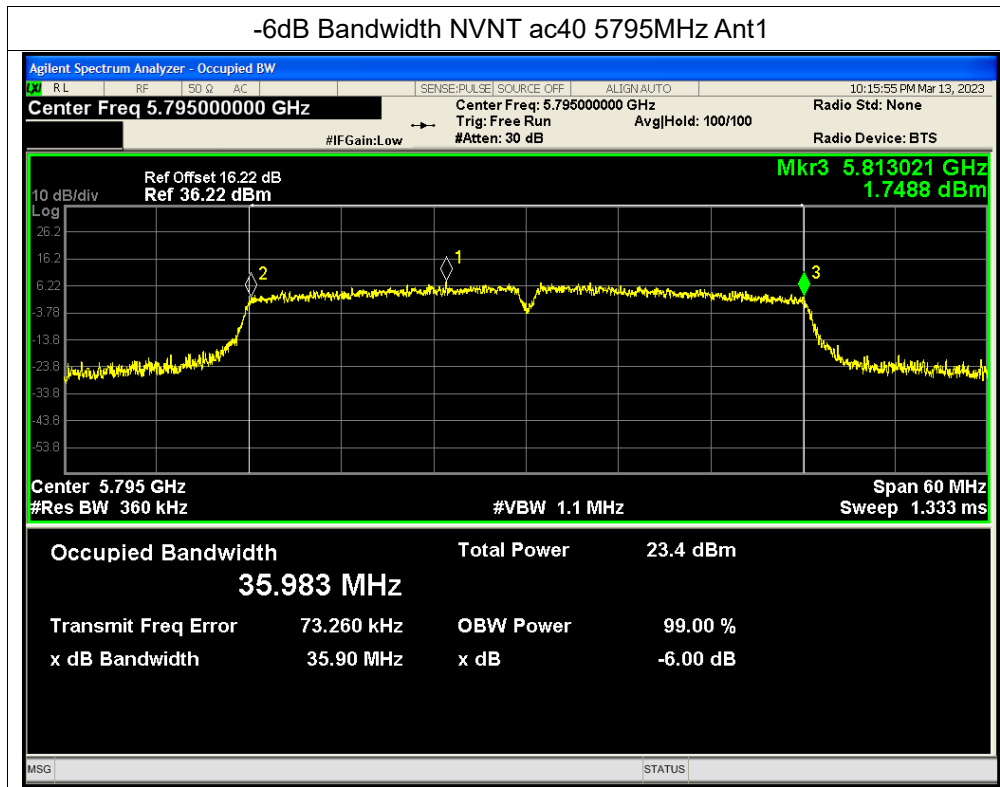


-6dB Bandwidth NVNT ac20 5825MHz Ant1



-6dB Bandwidth NVNT ac40 5755MHz Ant1





**A.4. Peak Power Spectral Density**

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	4.43	0.15	4.58	11	Pass
NVNT	a	5220	Ant1	5.85	0.12	5.97	11	Pass
NVNT	a	5240	Ant1	6.16	0.12	6.28	11	Pass
NVNT	a	5260	Ant1	7.18	0.15	7.33	11	Pass
NVNT	a	5300	Ant1	8.18	0.15	8.33	11	Pass
NVNT	a	5320	Ant1	8.55	0.15	8.7	11	Pass
NVNT	a	5500	Ant1	8.16	0.15	8.31	11	Pass
NVNT	a	5600	Ant1	6.34	0.15	6.49	11	Pass
NVNT	a	5720	Ant1	7.51	0.15	7.66	11	Pass
NVNT	a	5745	Ant1	5.49	0.12	5.61	30	Pass
NVNT	a	5785	Ant1	5.25	0.15	5.4	30	Pass
NVNT	a	5825	Ant1	5.57	0.15	5.72	30	Pass
NVNT	n20	5180	Ant1	4.59	0.16	4.75	11	Pass
NVNT	n20	5220	Ant1	4.8	0.16	4.96	11	Pass
NVNT	n20	5240	Ant1	5.14	0.13	5.27	11	Pass
NVNT	n20	5260	Ant1	6.32	0.13	6.45	11	Pass
NVNT	n20	5300	Ant1	7.44	0.13	7.57	11	Pass
NVNT	n20	5320	Ant1	7.63	0.16	7.79	11	Pass
NVNT	n20	5500	Ant1	7.11	0.13	7.24	11	Pass
NVNT	n20	5600	Ant1	5.55	0.13	5.68	11	Pass
NVNT	n20	5720	Ant1	6.43	0.13	6.56	11	Pass
NVNT	n20	5745	Ant1	4.66	0.13	4.79	30	Pass
NVNT	n20	5785	Ant1	4.65	0.16	4.81	30	Pass
NVNT	n20	5825	Ant1	4.87	0.13	5	30	Pass
NVNT	n40	5190	Ant1	1.98	0.26	2.24	11	Pass
NVNT	n40	5230	Ant1	2.34	0.32	2.66	11	Pass
NVNT	n40	5270	Ant1	3.6	0.26	3.86	11	Pass
NVNT	n40	5310	Ant1	4.34	0.32	4.66	11	Pass
NVNT	n40	5510	Ant1	3.9	0.26	4.16	11	Pass
NVNT	n40	5630	Ant1	1.73	0.26	1.99	11	Pass
NVNT	n40	5710	Ant1	2.86	0.32	3.18	11	Pass
NVNT	n40	5755	Ant1	1.36	0.33	1.69	30	Pass
NVNT	n40	5795	Ant1	0.94	0.26	1.2	30	Pass
NVNT	ac20	5180	Ant1	4.88	0.13	5.01	11	Pass

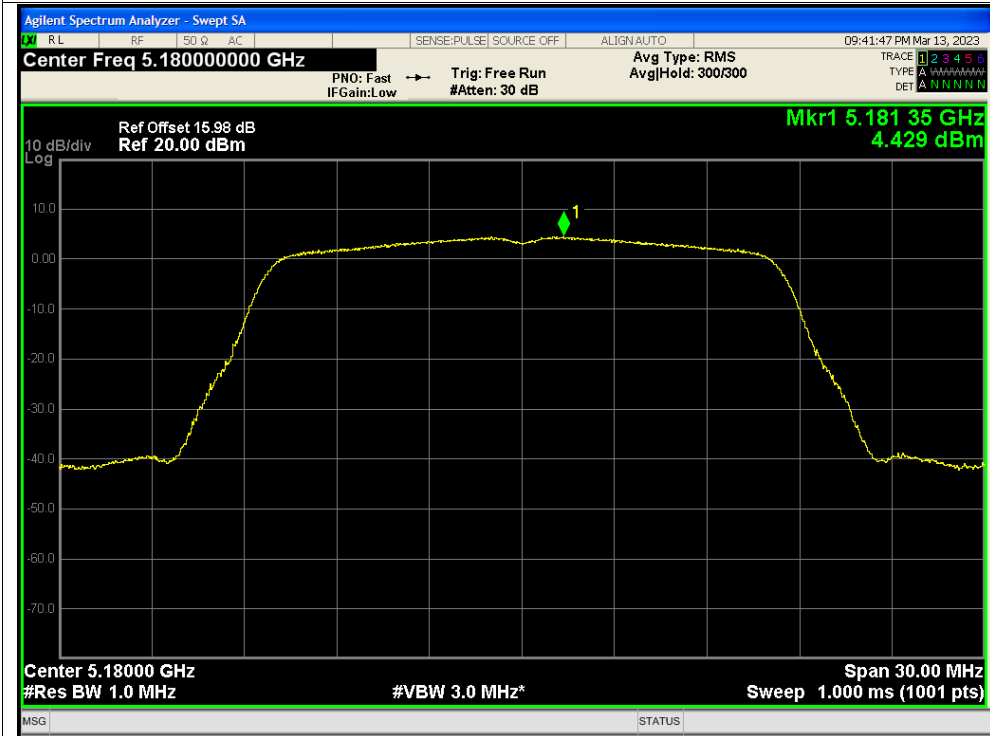


NVNT	ac20	5220	Ant1	5.3	0.13	5.43	11	Pass
NVNT	ac20	5240	Ant1	5.52	0.16	5.68	11	Pass
NVNT	ac20	5260	Ant1	6.59	0.13	6.72	11	Pass
NVNT	ac20	5300	Ant1	7.41	0.16	7.57	11	Pass
NVNT	ac20	5320	Ant1	7.45	0.16	7.61	11	Pass
NVNT	ac20	5500	Ant1	6.56	0.16	6.72	11	Pass
NVNT	ac20	5600	Ant1	5.37	0.16	5.53	11	Pass
NVNT	ac20	5720	Ant1	6.37	0.16	6.53	11	Pass
NVNT	ac20	5745	Ant1	4.58	0.16	4.74	30	Pass
NVNT	ac20	5785	Ant1	4.66	0.13	4.79	30	Pass
NVNT	ac20	5825	Ant1	4.92	0.13	5.05	30	Pass
NVNT	ac40	5190	Ant1	1.45	0.26	1.71	11	Pass
NVNT	ac40	5230	Ant1	2.12	0.26	2.38	11	Pass
NVNT	ac40	5270	Ant1	3.63	0.26	3.89	11	Pass
NVNT	ac40	5310	Ant1	4.24	0.32	4.56	11	Pass
NVNT	ac40	5510	Ant1	3.92	0.32	4.24	11	Pass
NVNT	ac40	5630	Ant1	2.15	0.26	2.41	11	Pass
NVNT	ac40	5710	Ant1	3.35	0.32	3.67	11	Pass
NVNT	ac40	5755	Ant1	1.38	0.26	1.64	30	Pass
NVNT	ac40	5795	Ant1	1.18	0.32	1.5	30	Pass

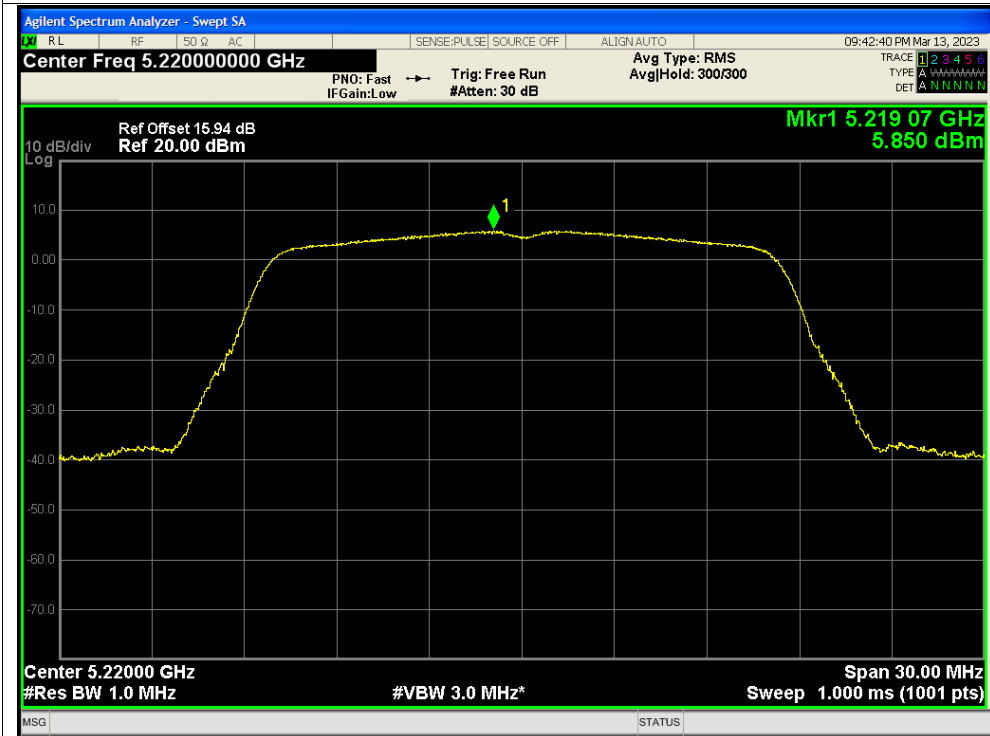


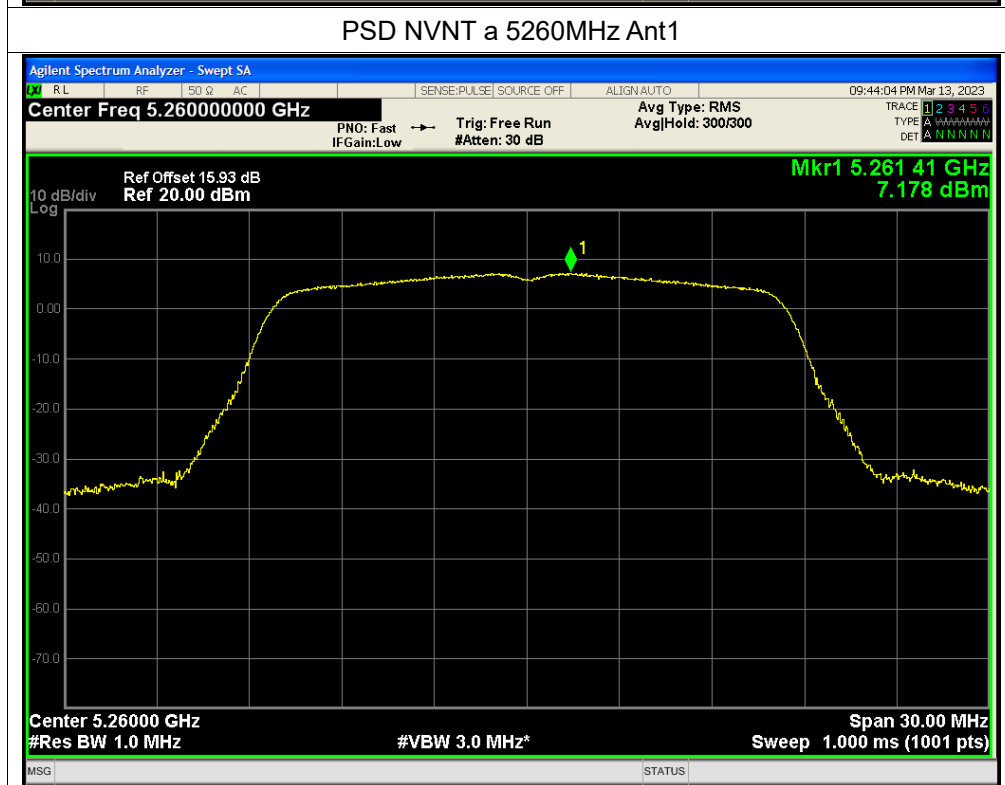
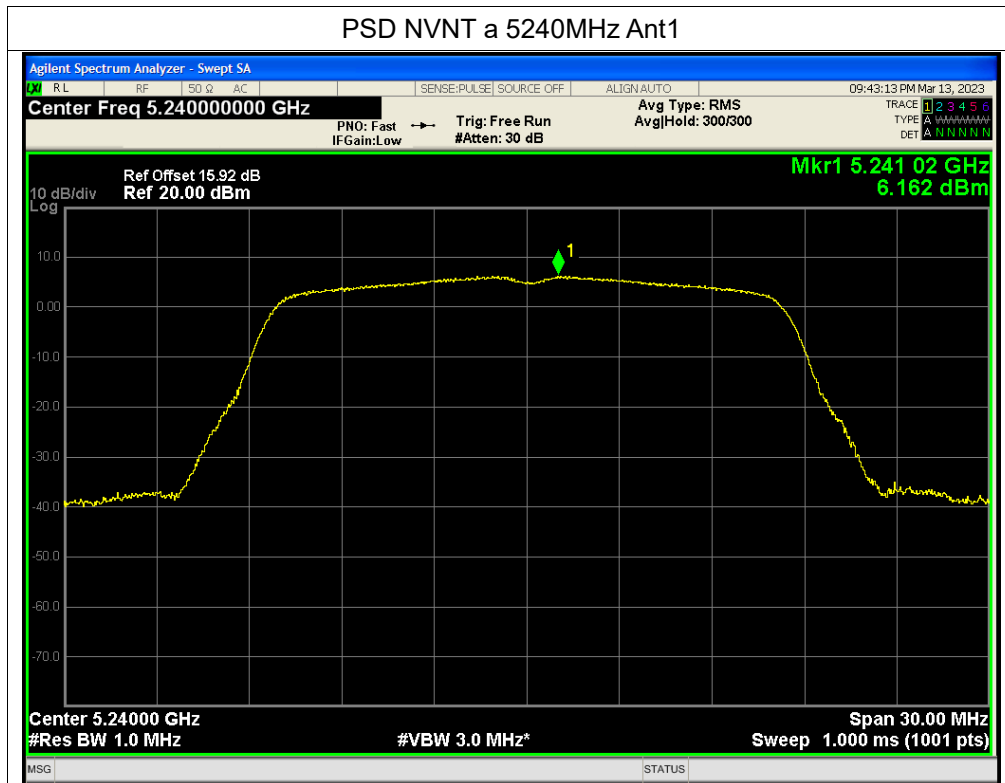
Test Graphs

PSD NVNT a 5180MHz Ant1



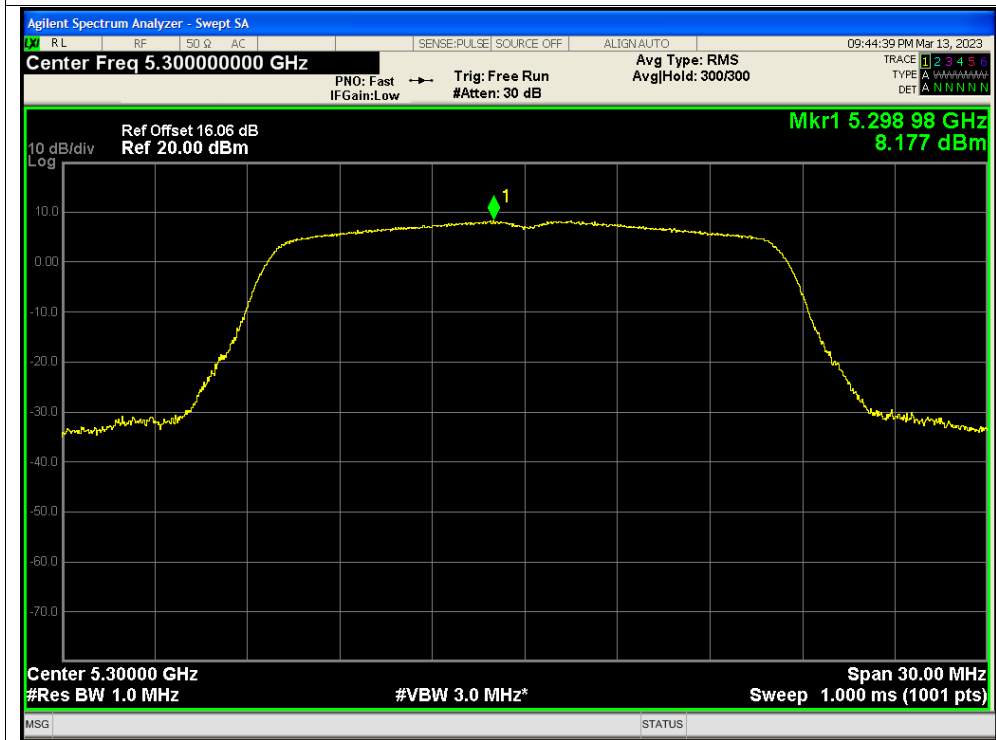
PSD NVNT a 5220MHz Ant1



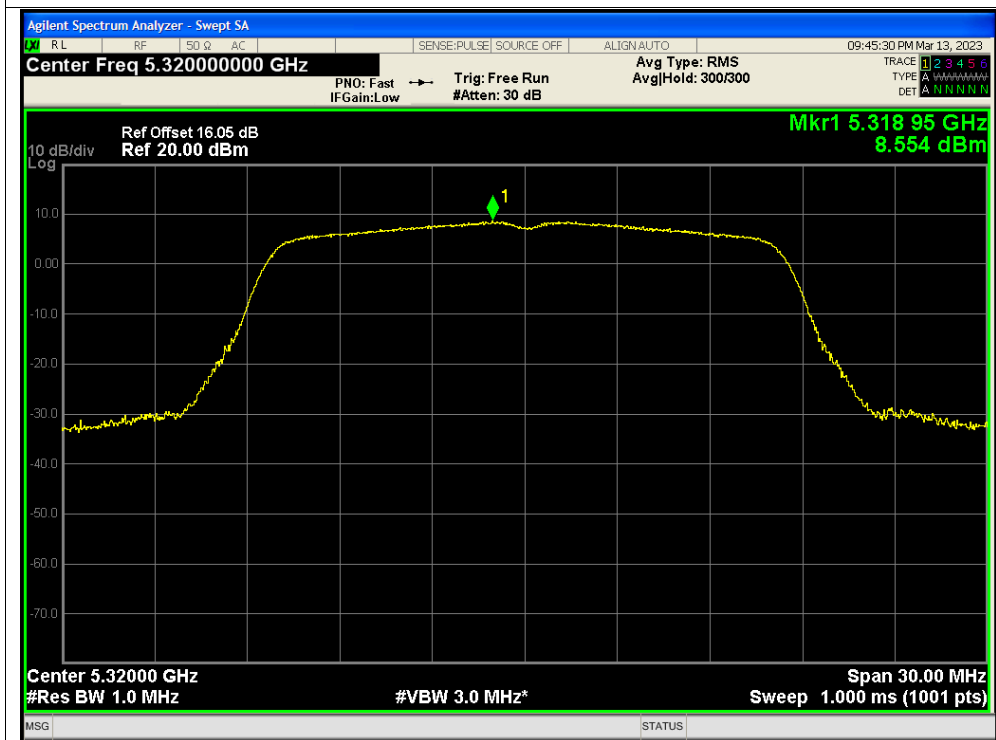




PSD NVNT a 5300MHz Ant1

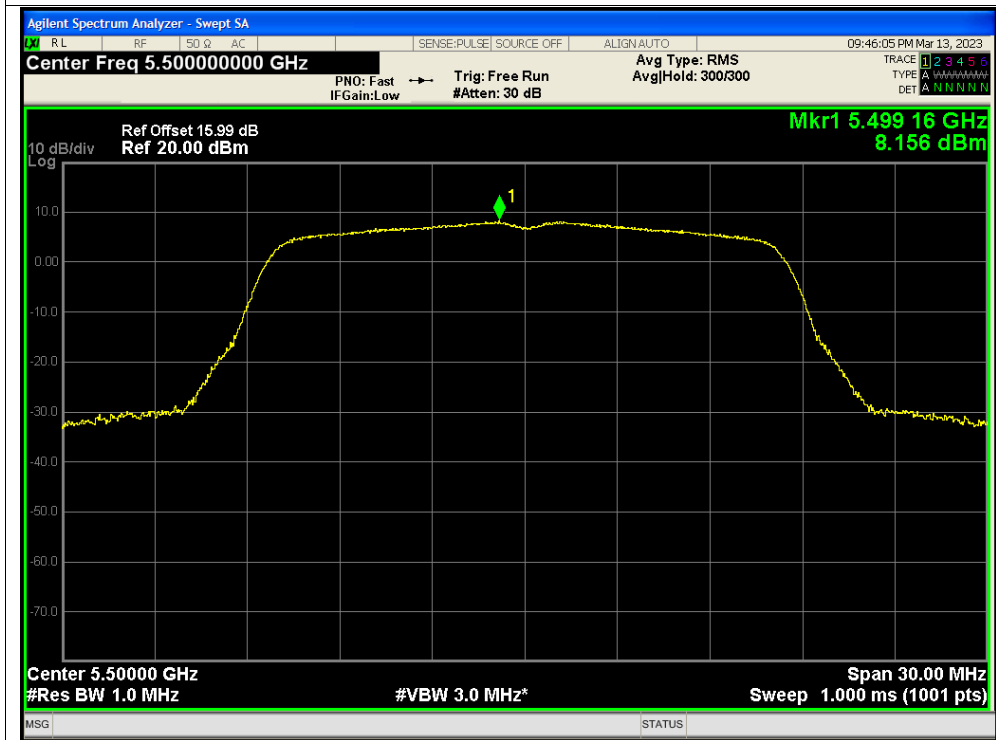


PSD NVNT a 5320MHz Ant1

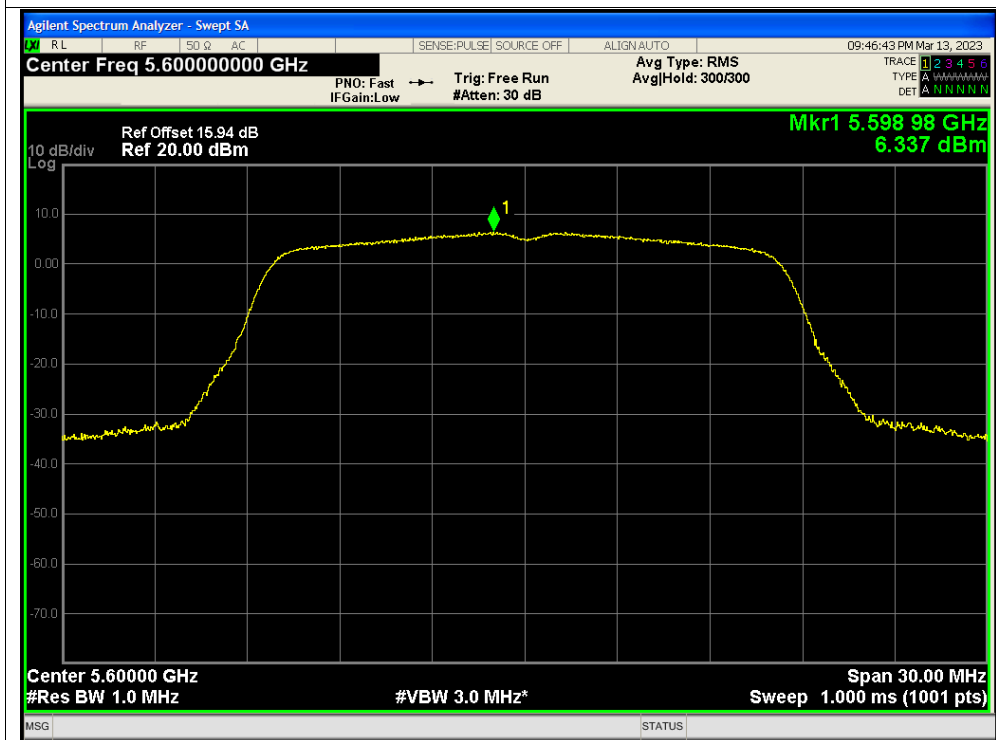




PSD NVNT a 5500MHz Ant1

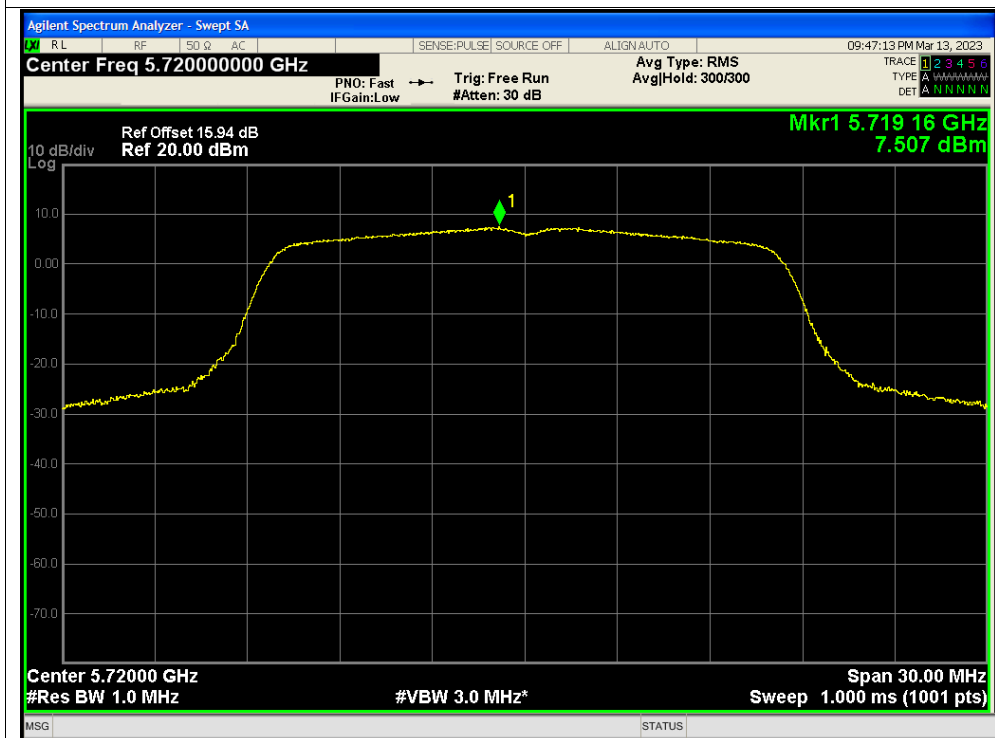


PSD NVNT a 5600MHz Ant1

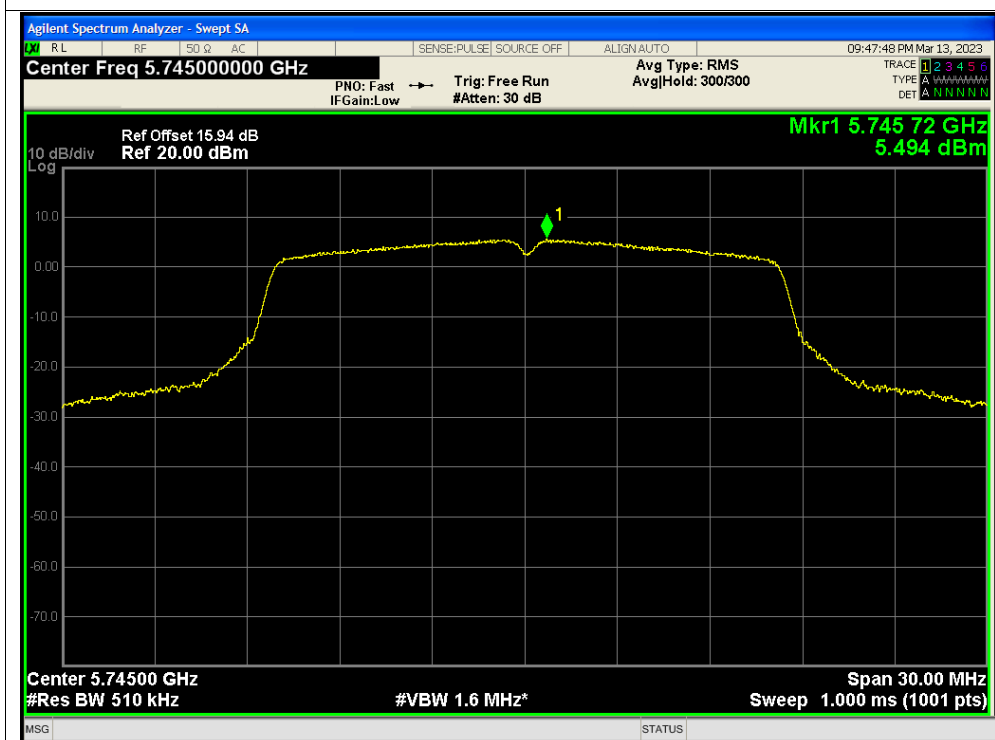




PSD NVNT a 5720MHz Ant1

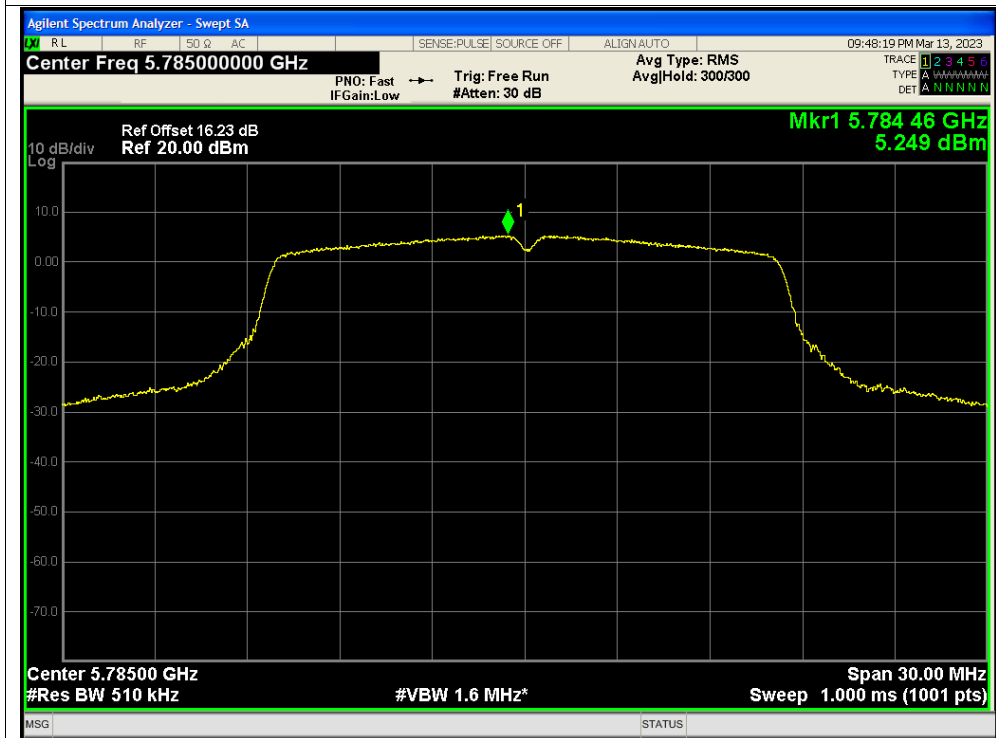


PSD NVNT a 5745MHz Ant1

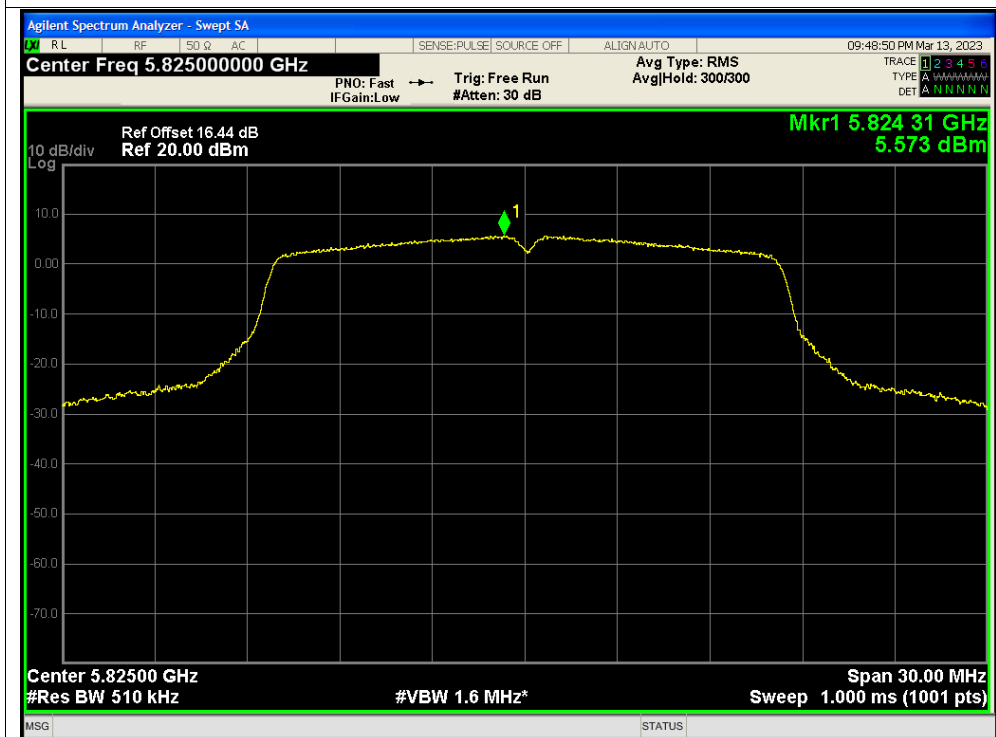




PSD NVNT a 5785MHz Ant1

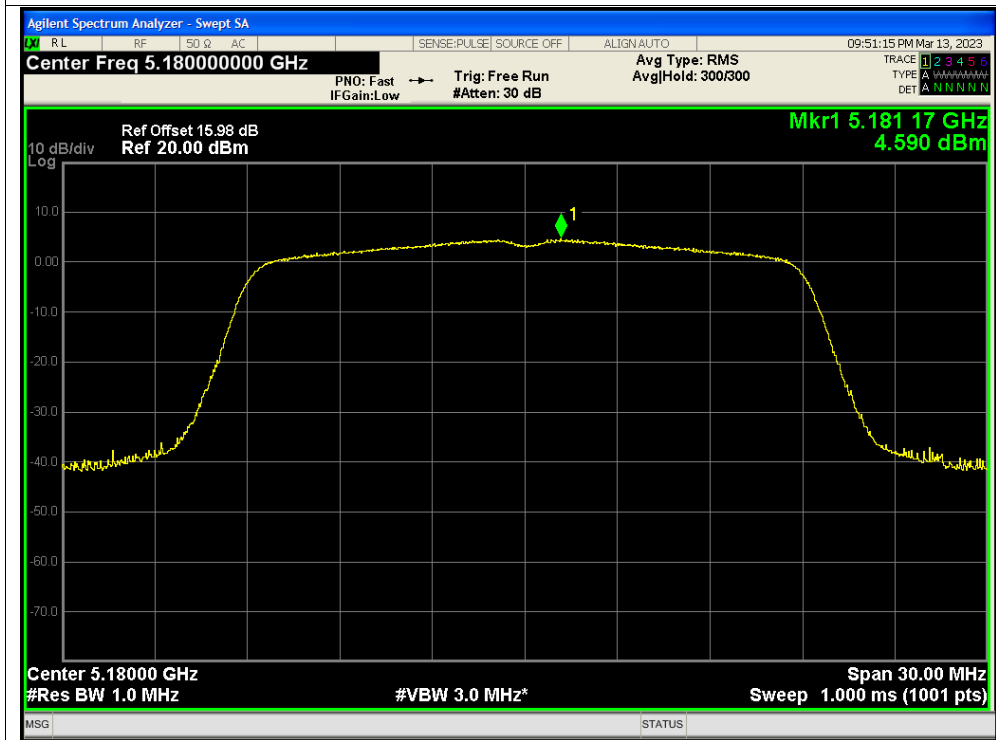


PSD NVNT a 5825MHz Ant1

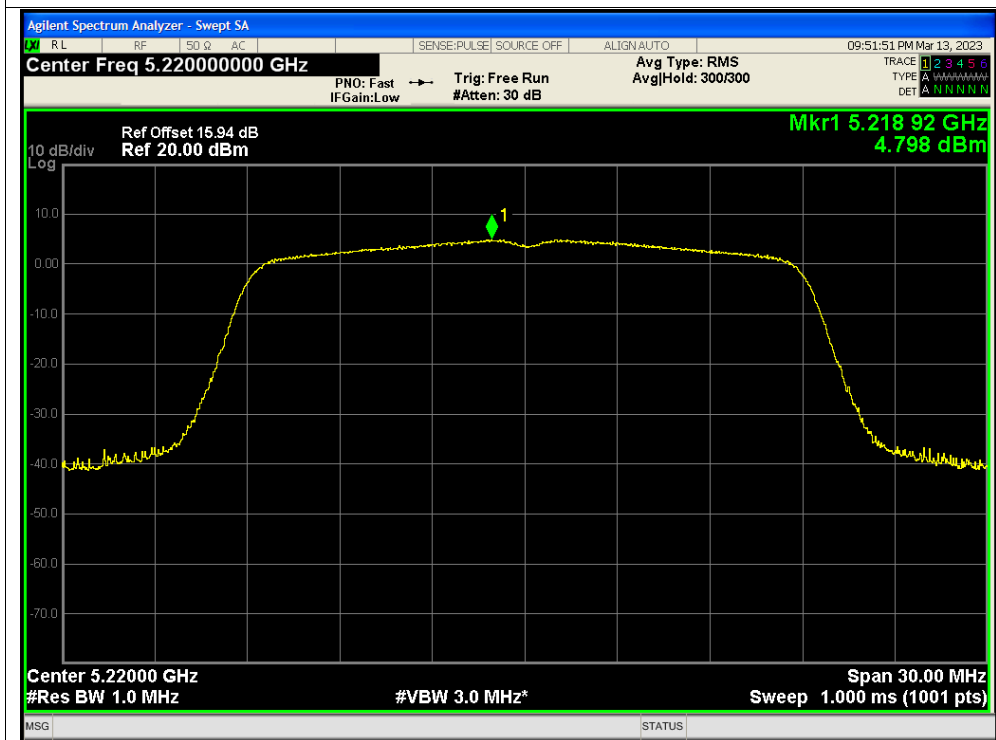




PSD NVNT n20 5180MHz Ant1

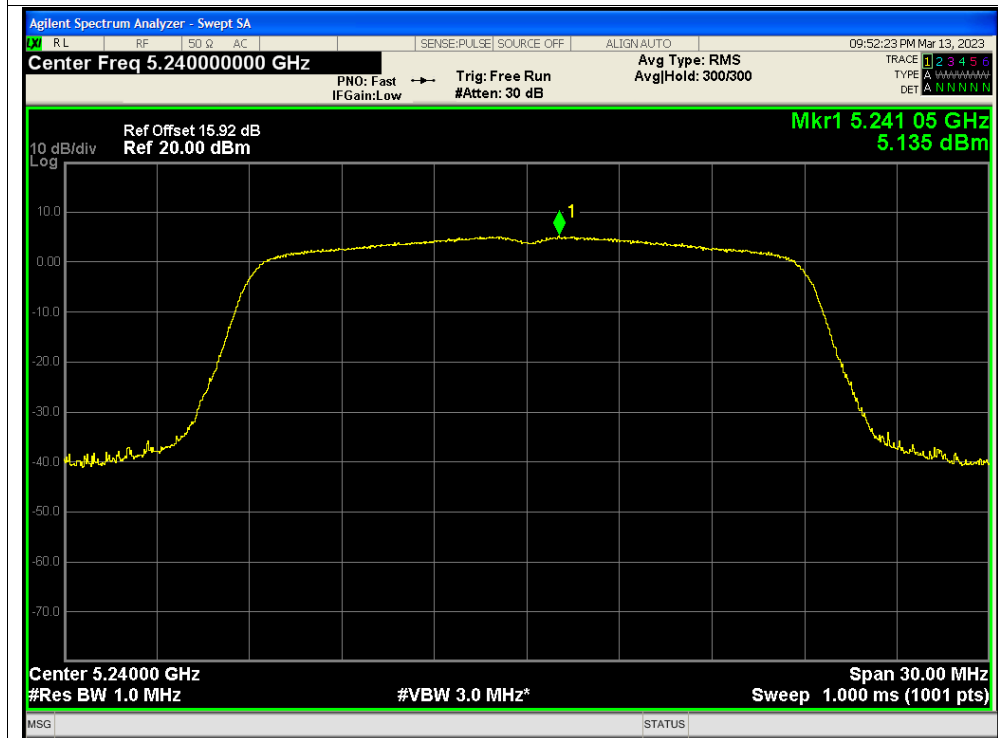


PSD NVNT n20 5220MHz Ant1

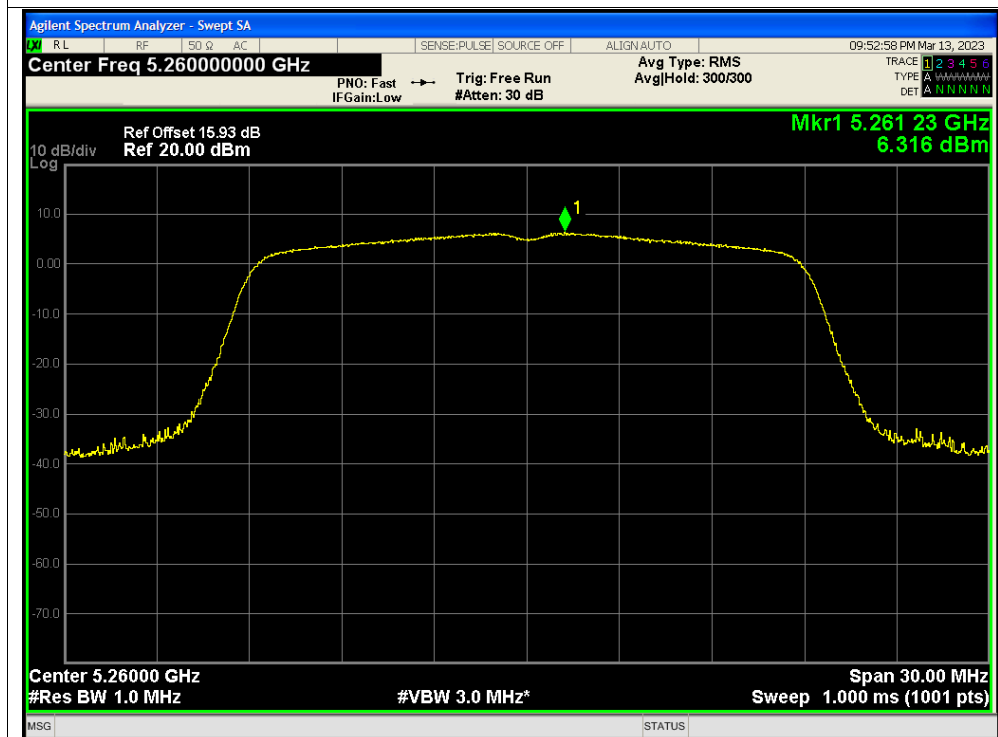




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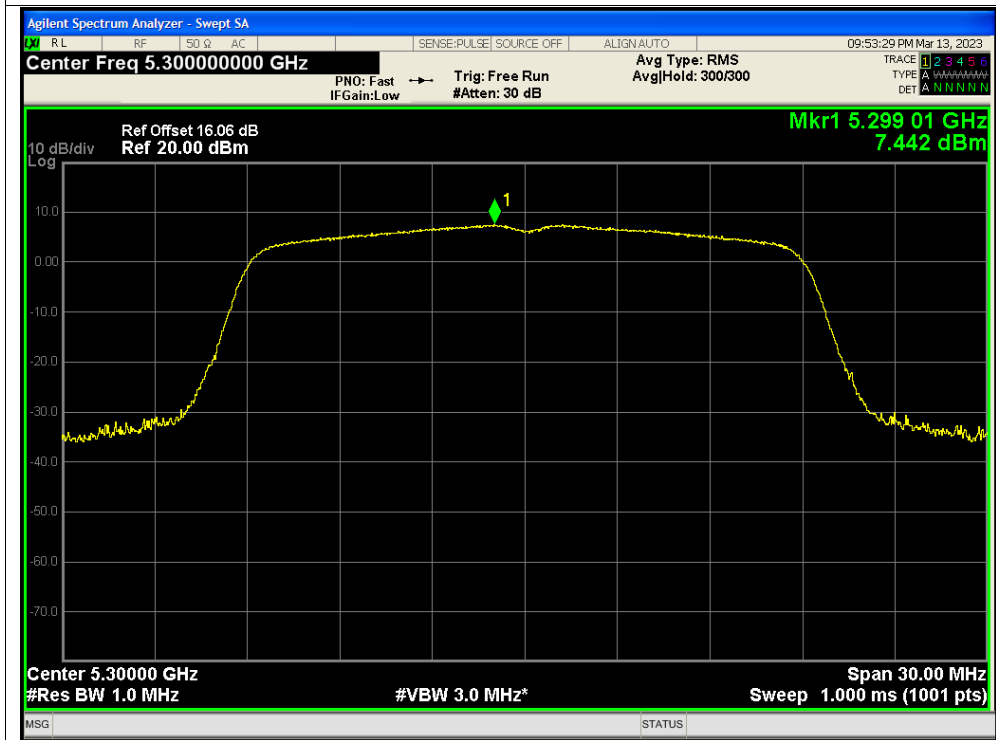


PSD NVNT n20 5260MHz Ant1

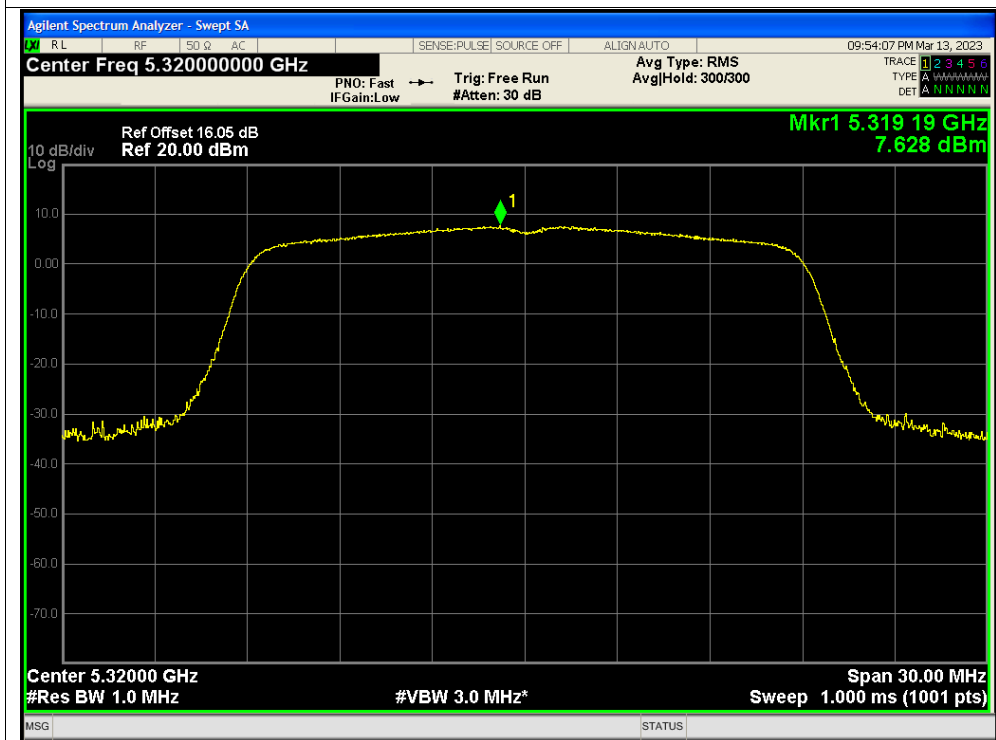




PSD NVNT n20 5300MHz Ant1

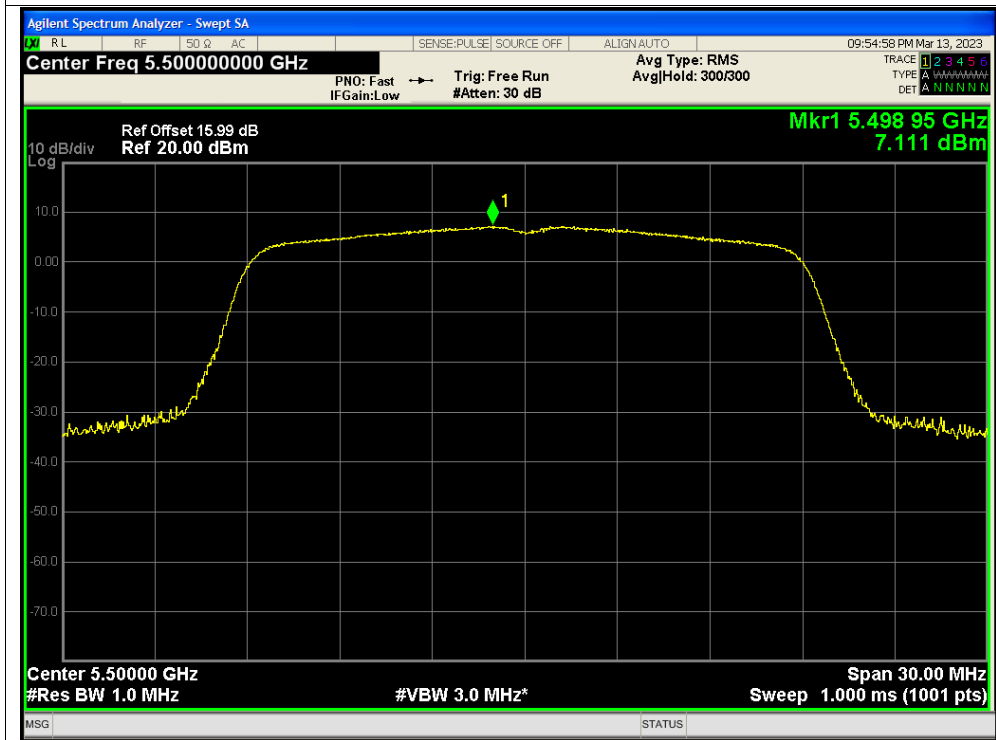


PSD NVNT n20 5320MHz Ant1

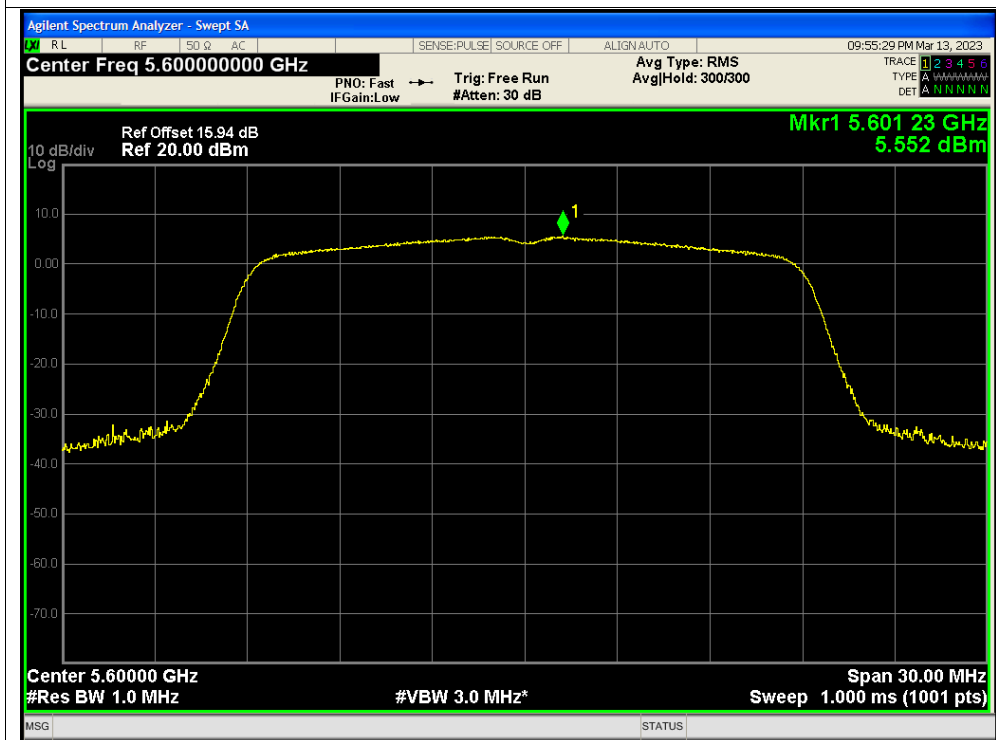




PSD NVNT n20 5500MHz Ant1

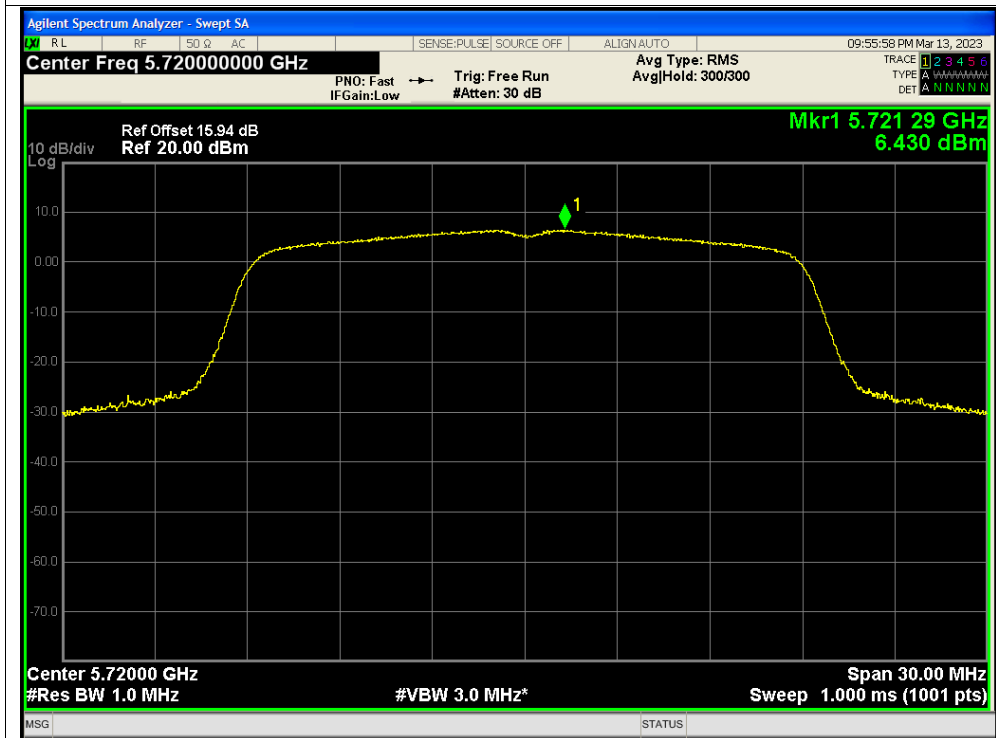


PSD NVNT n20 5600MHz Ant1

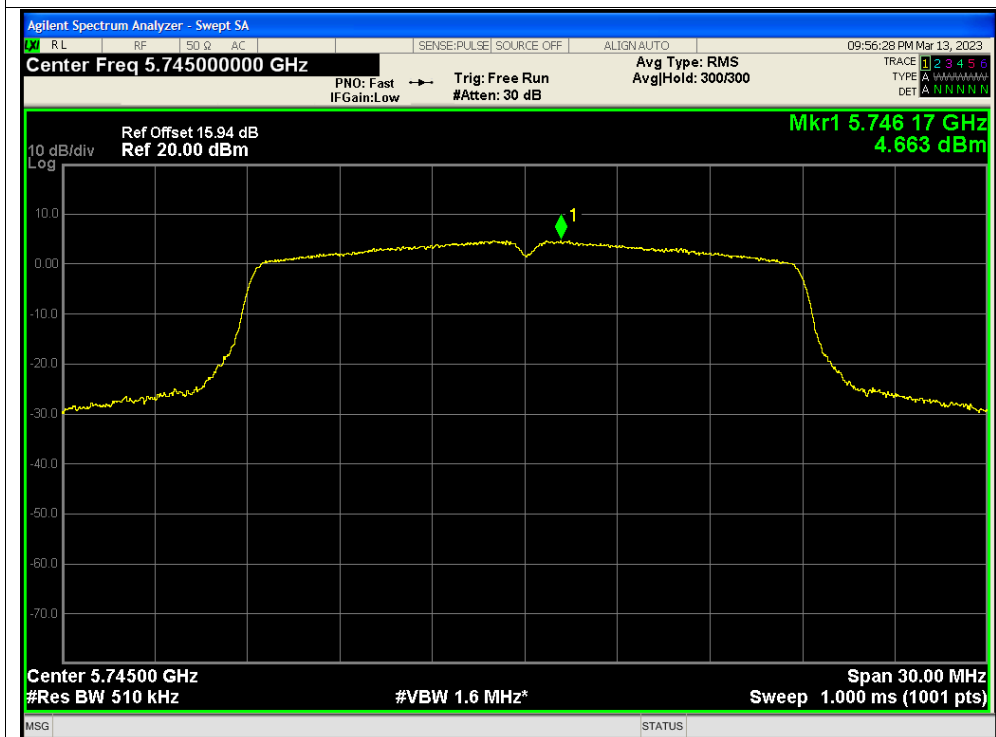




PSD NVNT n20 5720MHz Ant1

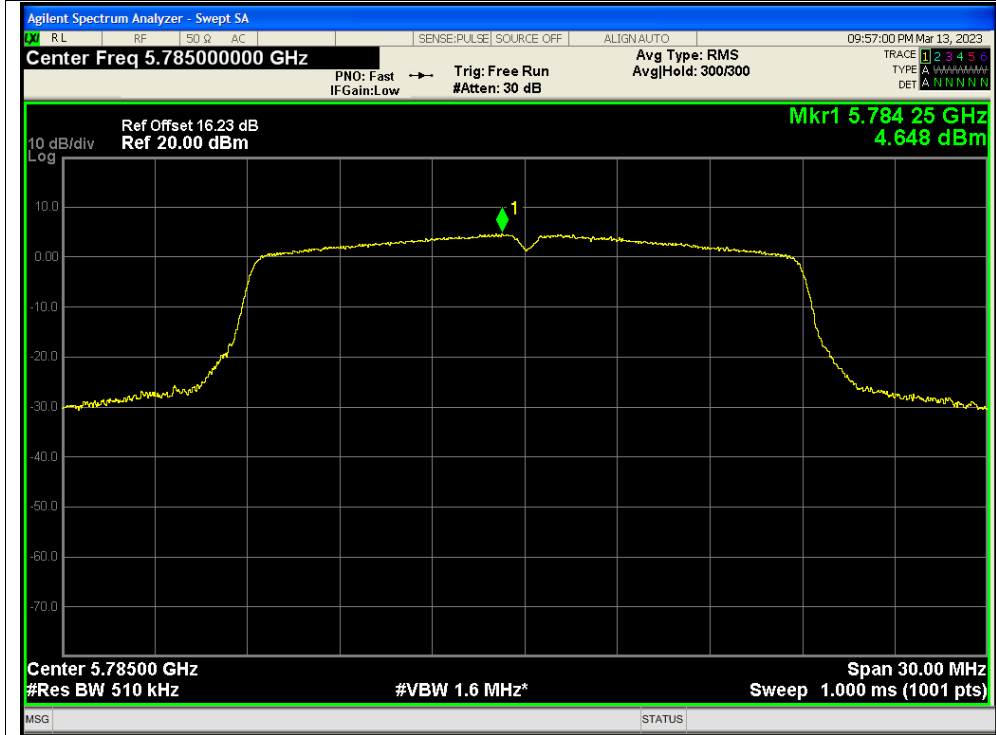


PSD NVNT n20 5745MHz Ant1

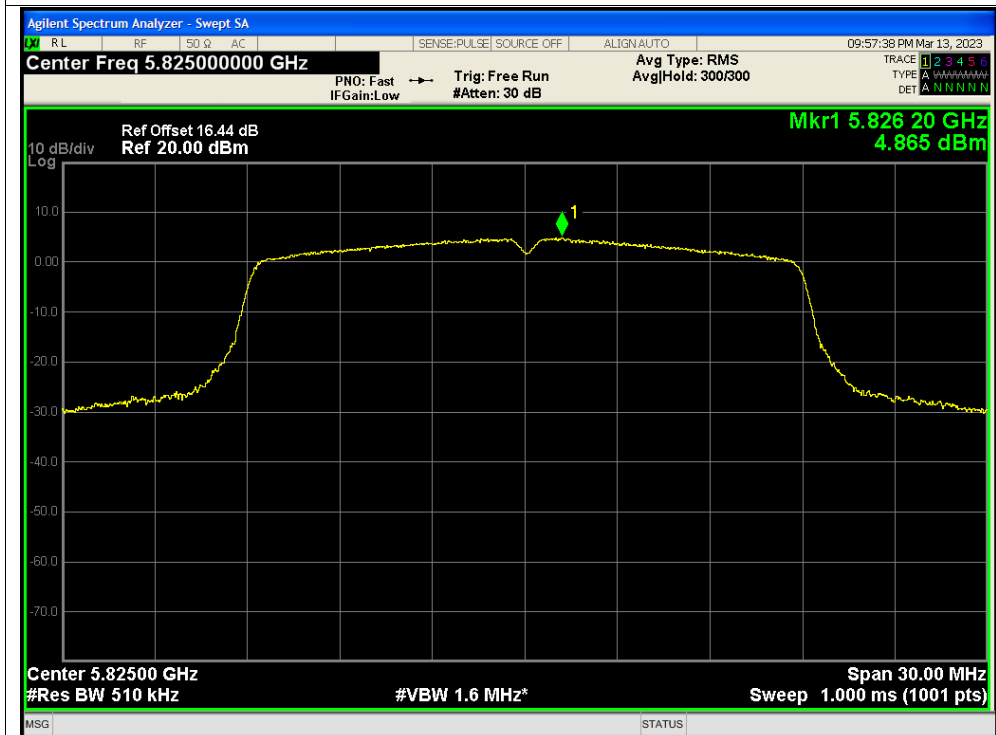




PSD NVNT n20 5785MHz Ant1

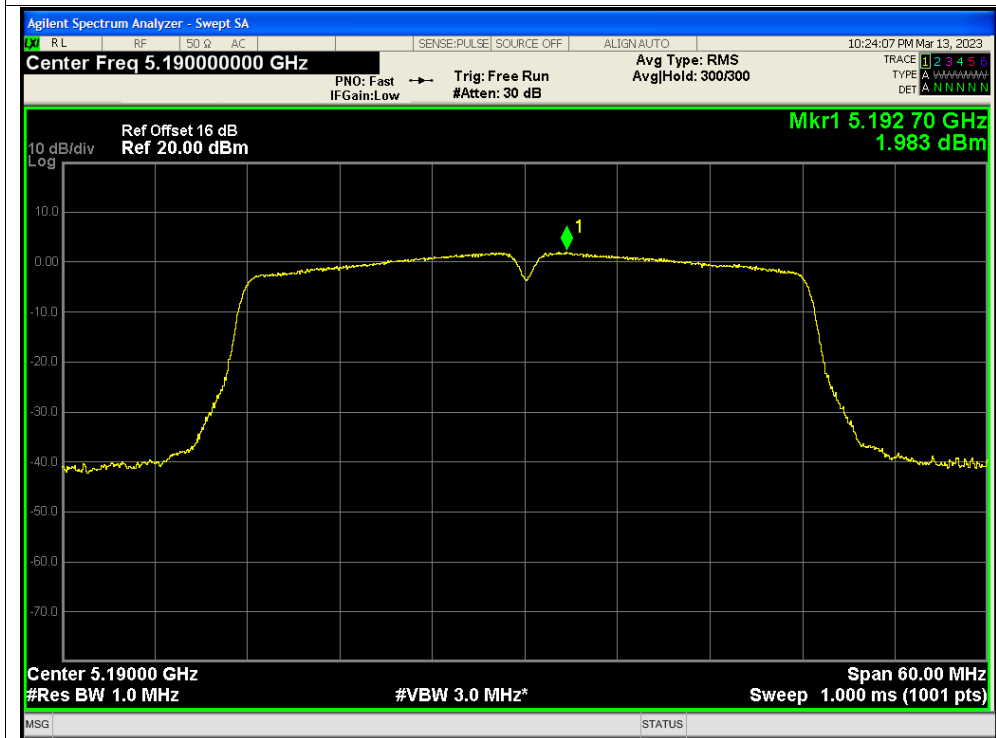


PSD NVNT n20 5825MHz Ant1

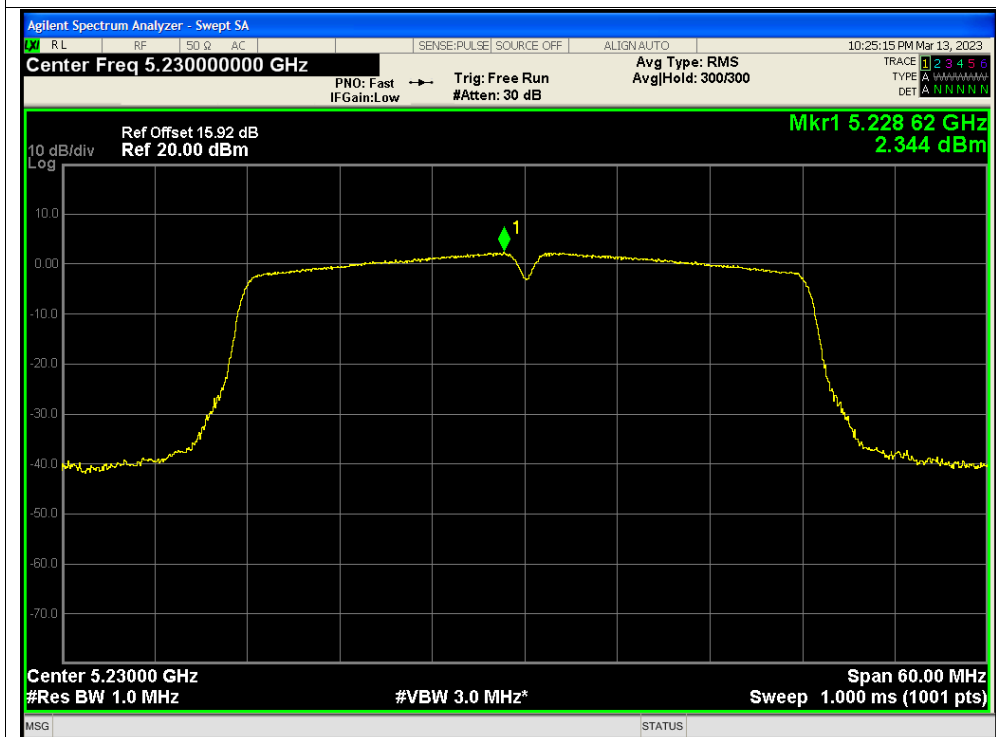




PSD NVNT n40 5190MHz Ant1

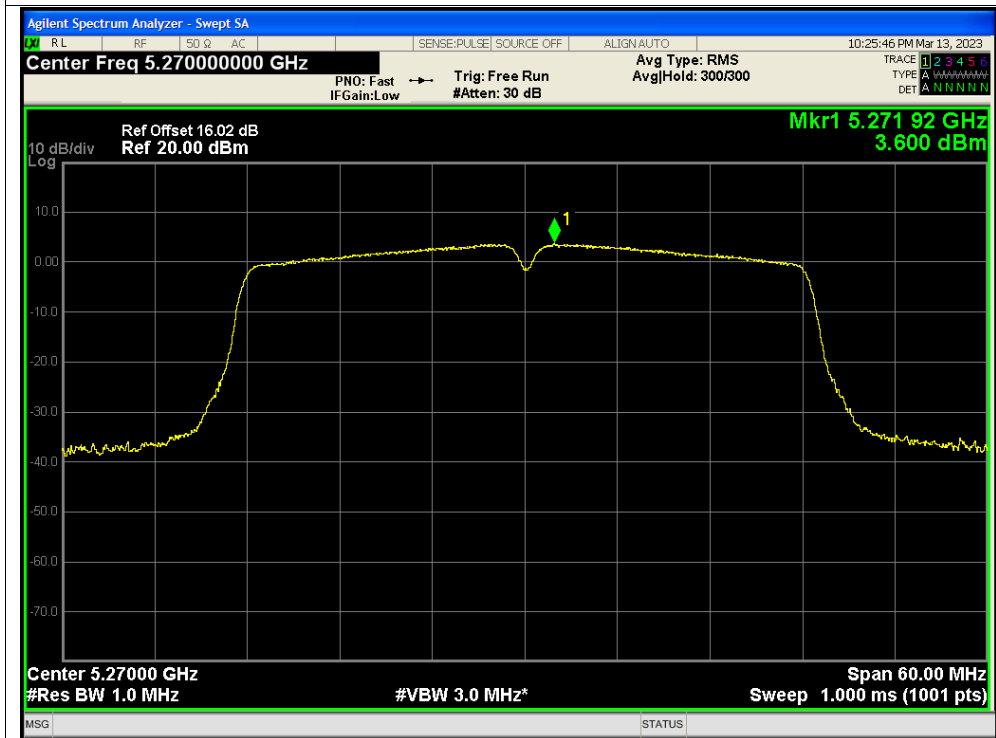


PSD NVNT n40 5230MHz Ant1

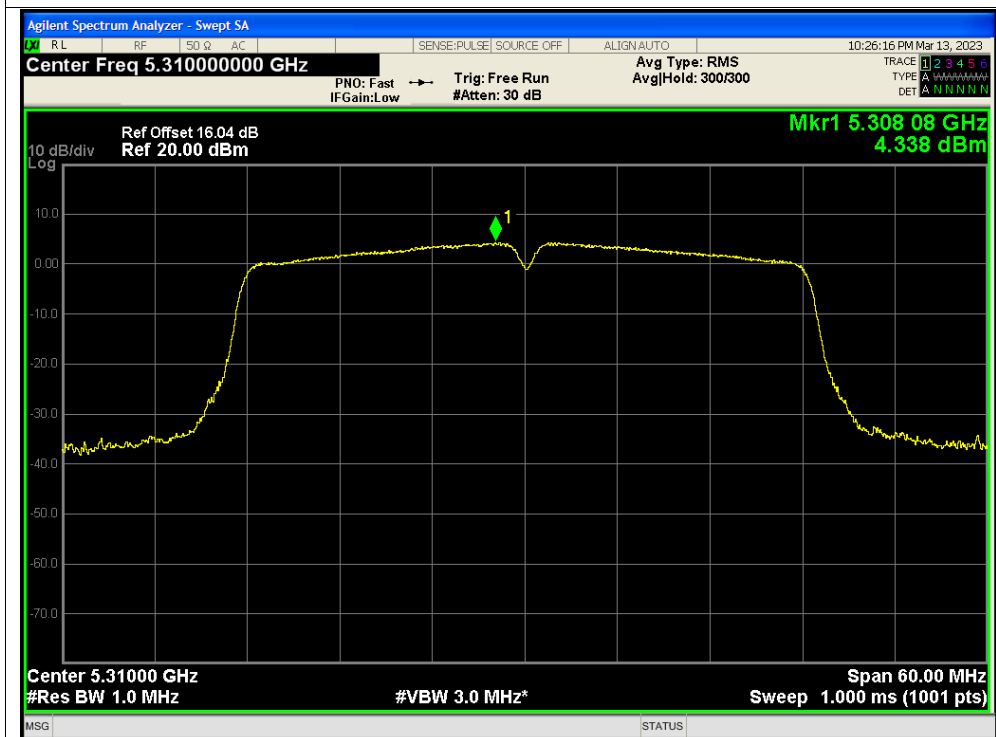




PSD NVNT n40 5270MHz Ant1

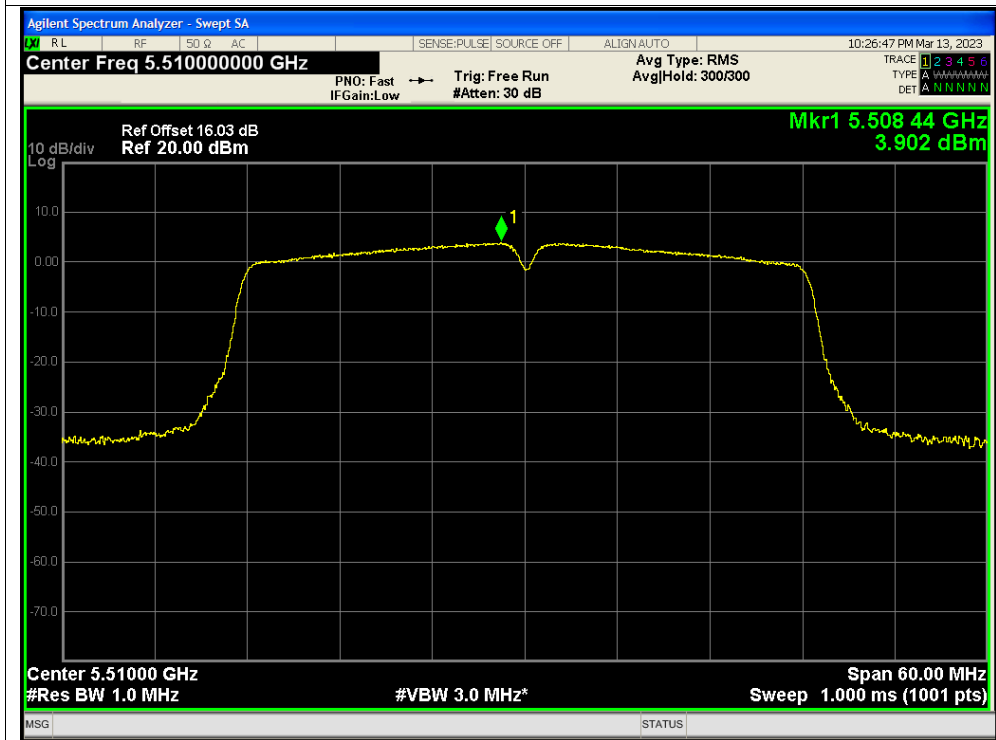


PSD NVNT n40 5310MHz Ant1

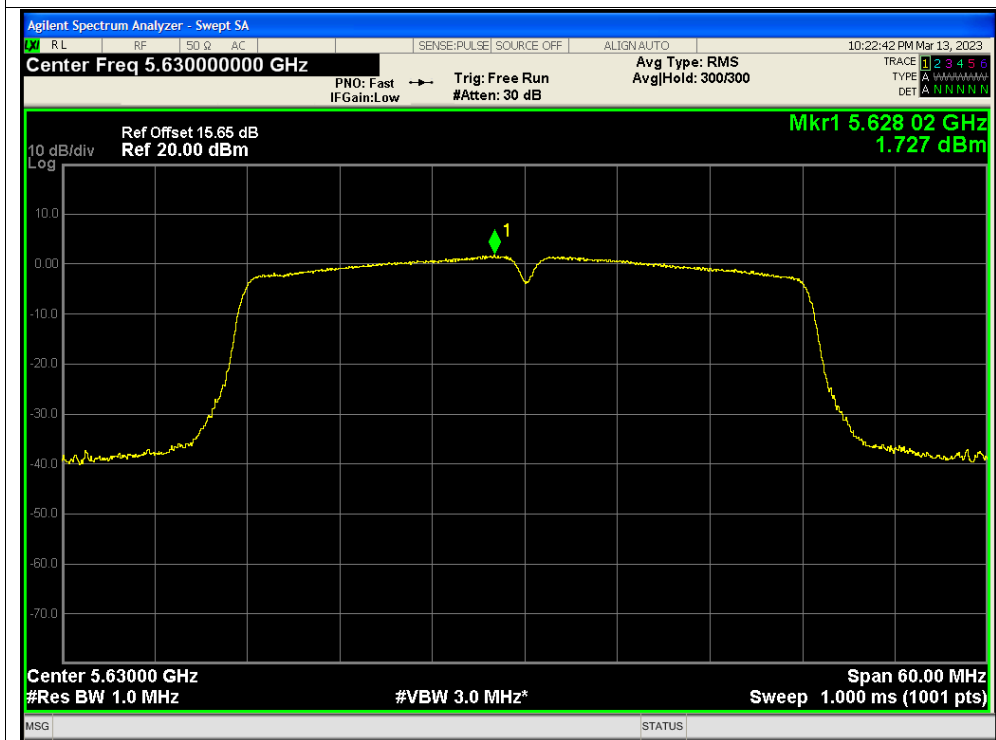




PSD NVNT n40 5510MHz Ant1

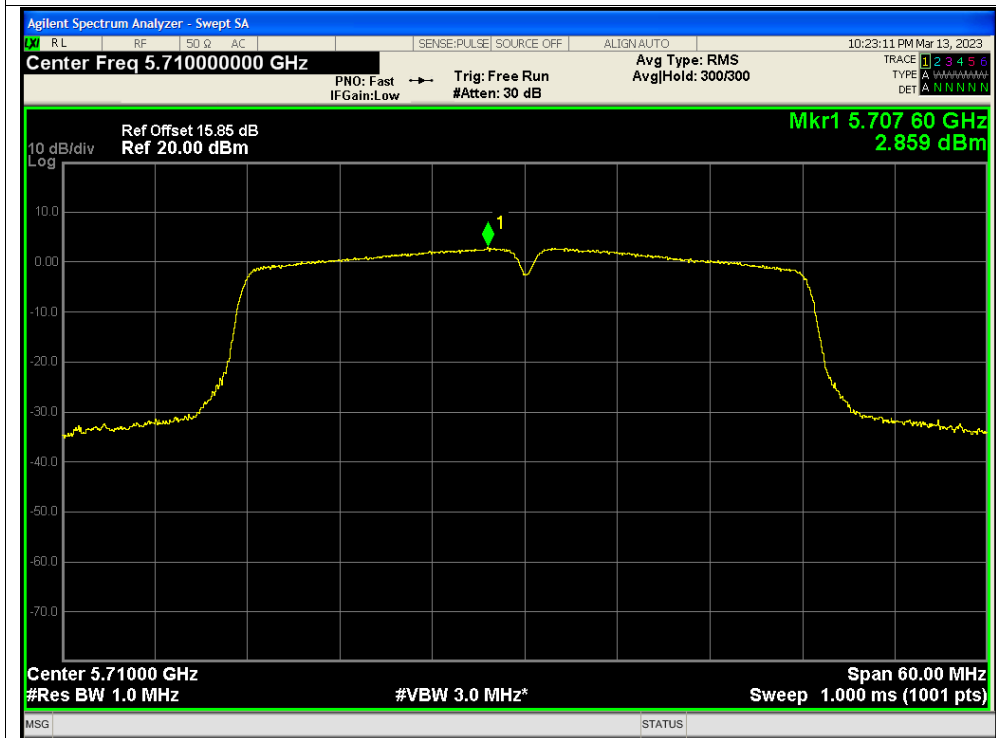


PSD NVNT n40 5630MHz Ant1

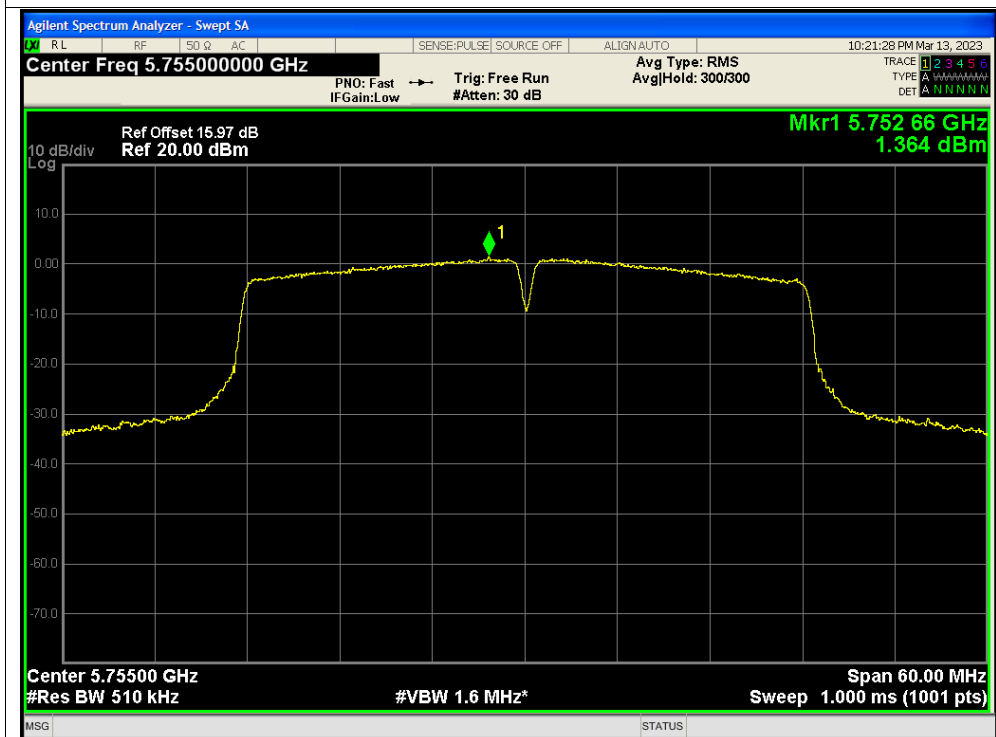




PSD NVNT n40 5710MHz Ant1

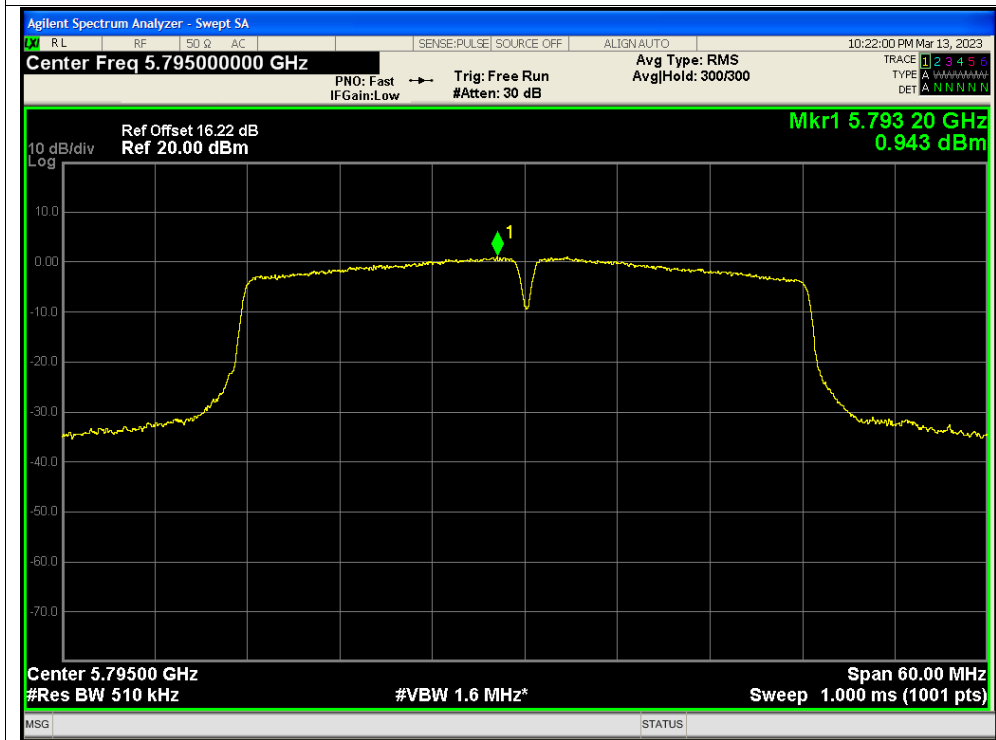


PSD NVNT n40 5755MHz Ant1

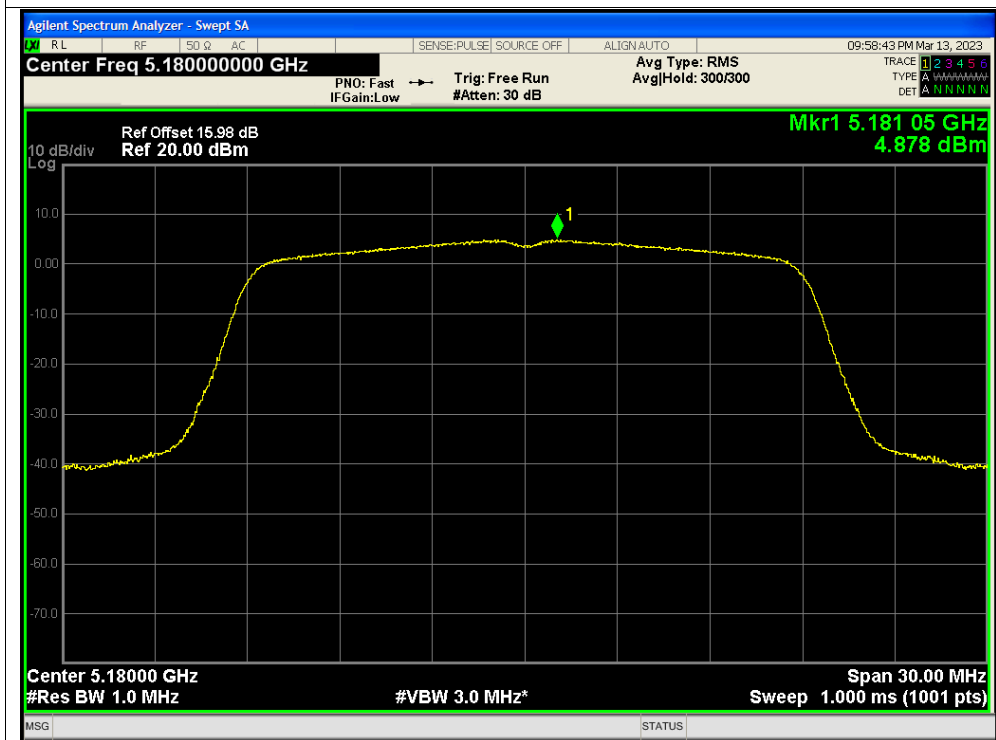




PSD NVNT n40 5795MHz Ant1

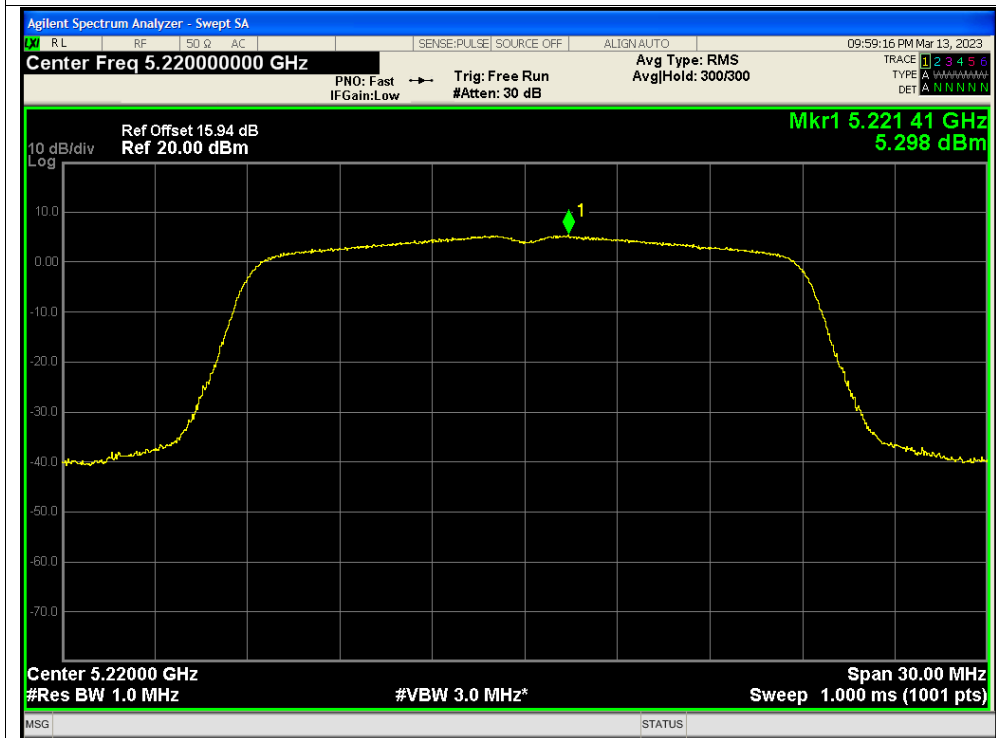


PSD NVNT ac20 5180MHz Ant1

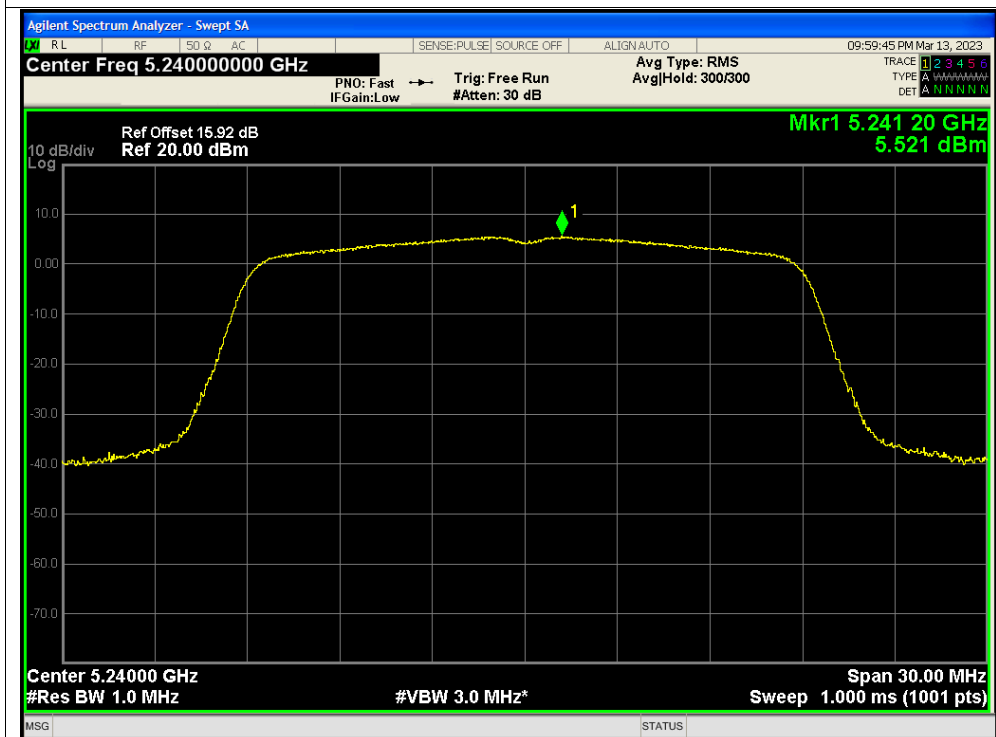




PSD NVNT ac20 5220MHz Ant1

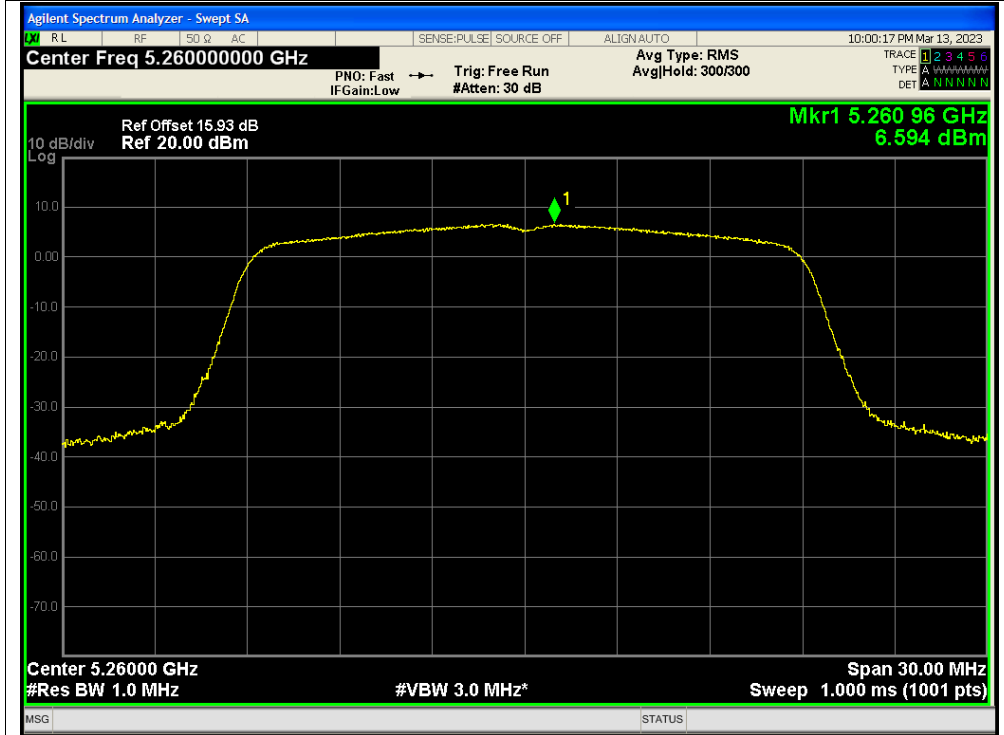


PSD NVNT ac20 5240MHz Ant1

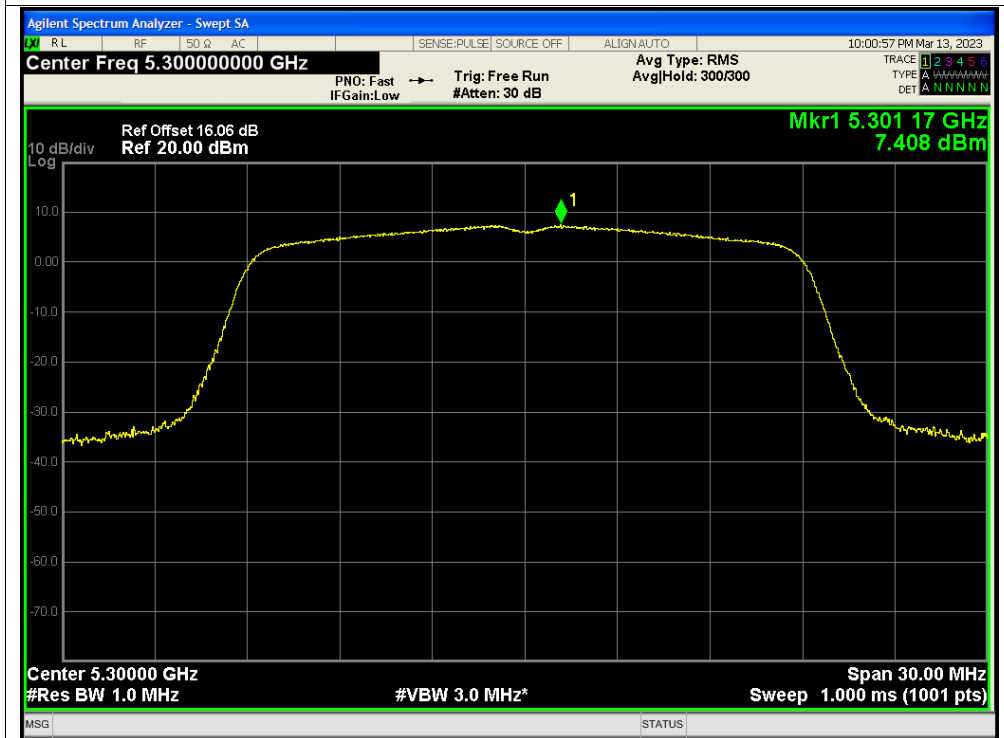




PSD NVNT ac20 5260MHz Ant1

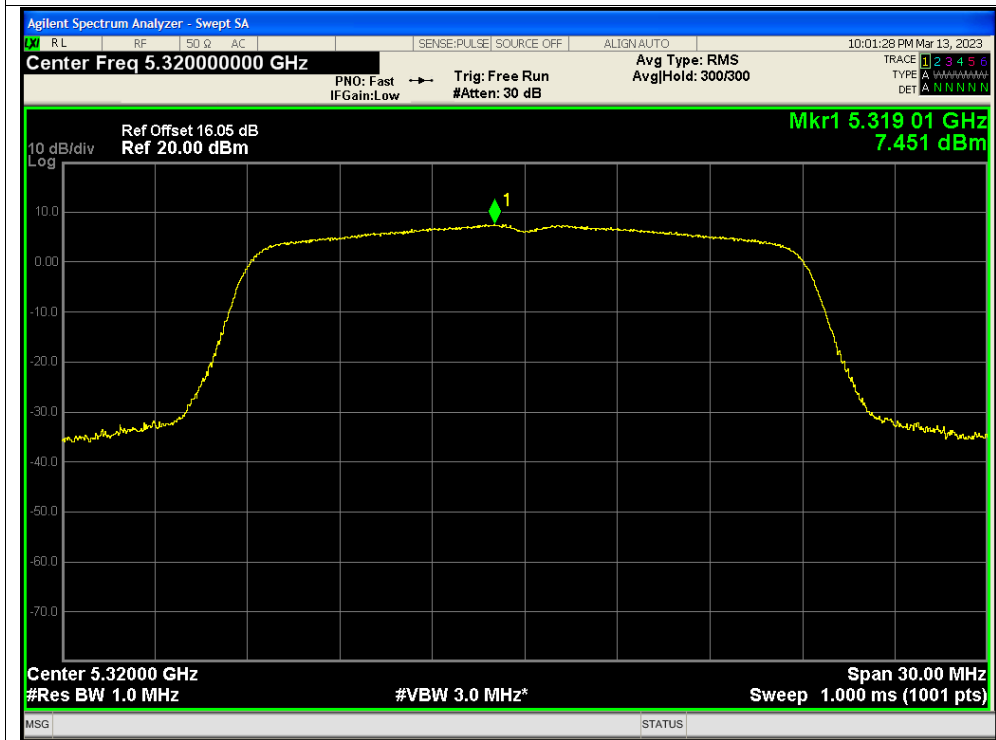


PSD NVNT ac20 5300MHz Ant1

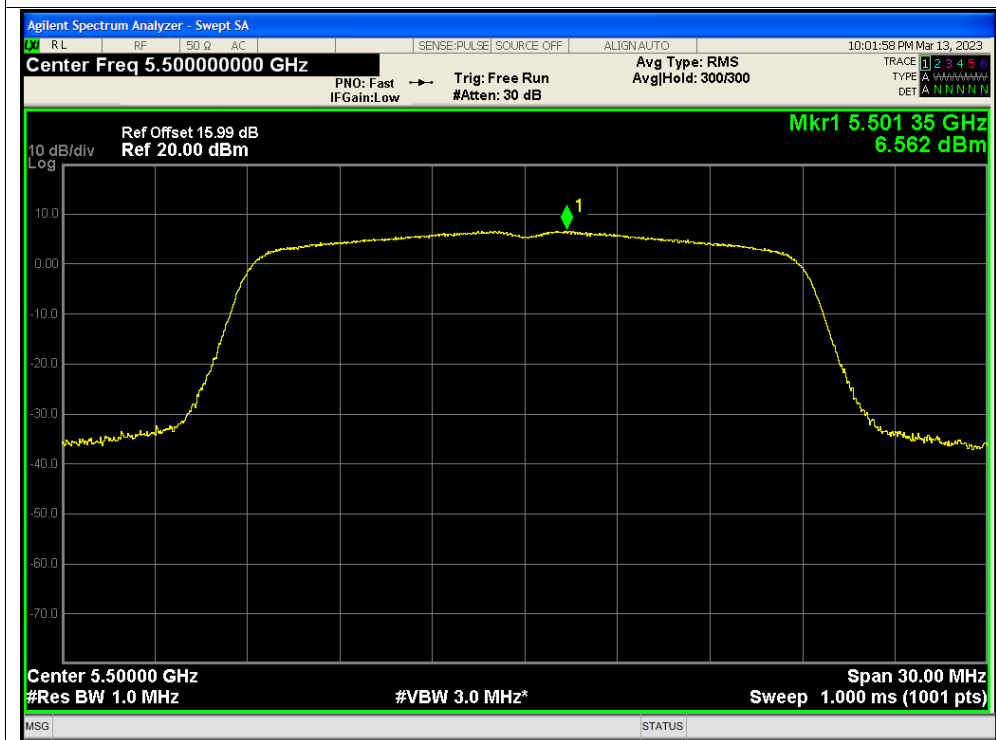




PSD NVNT ac20 5320MHz Ant1

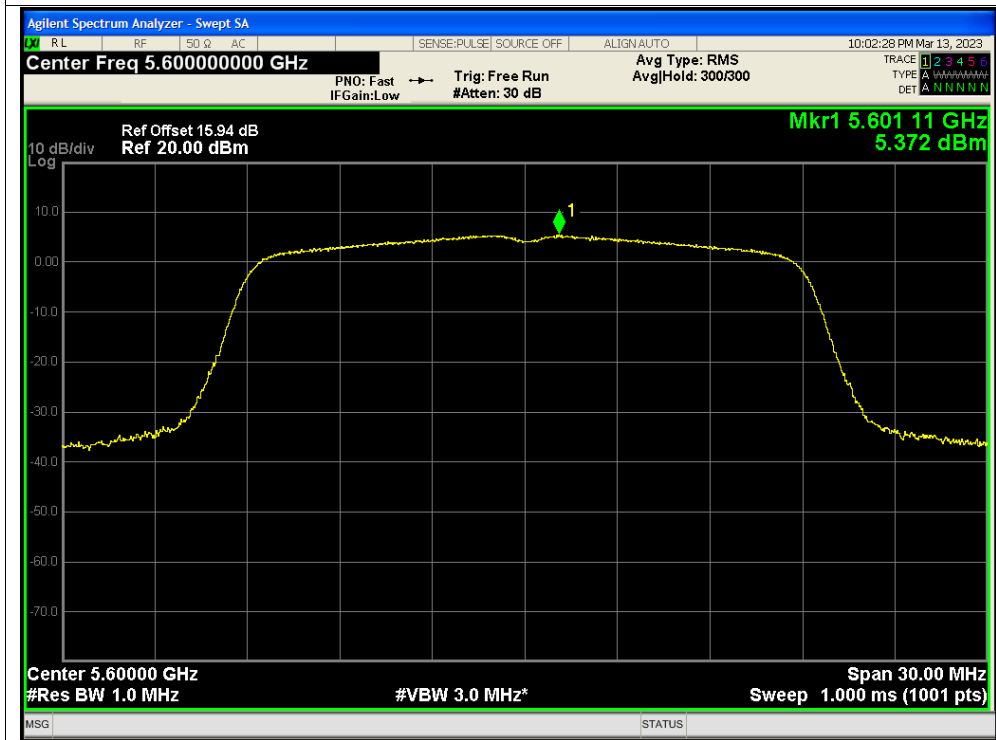


PSD NVNT ac20 5500MHz Ant1

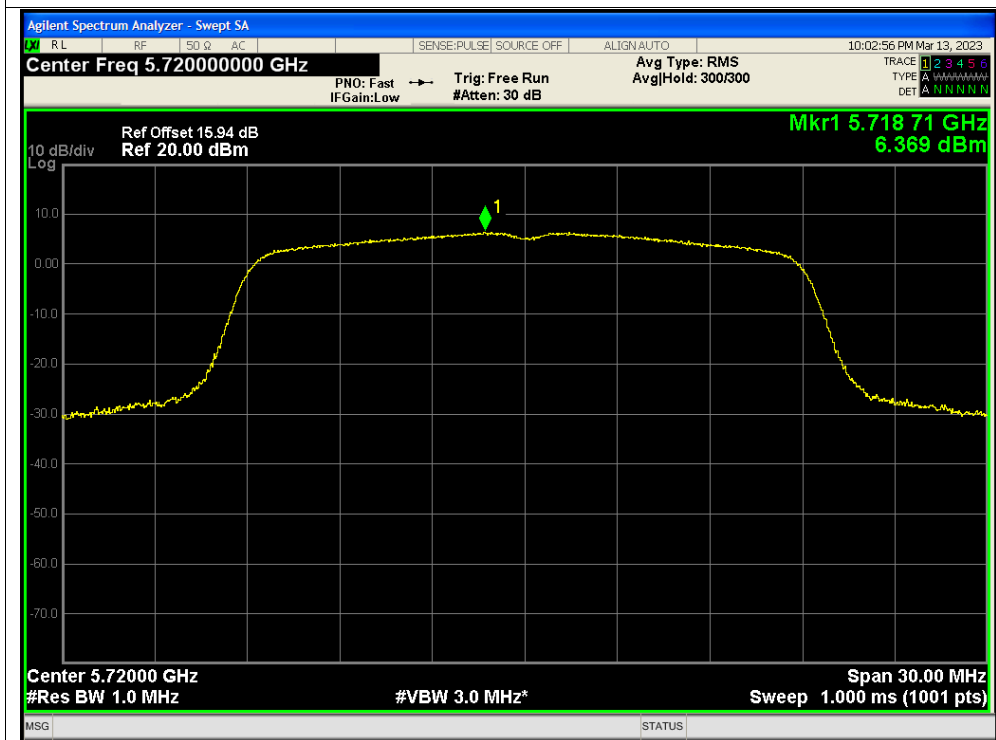




PSD NVNT ac20 5600MHz Ant1

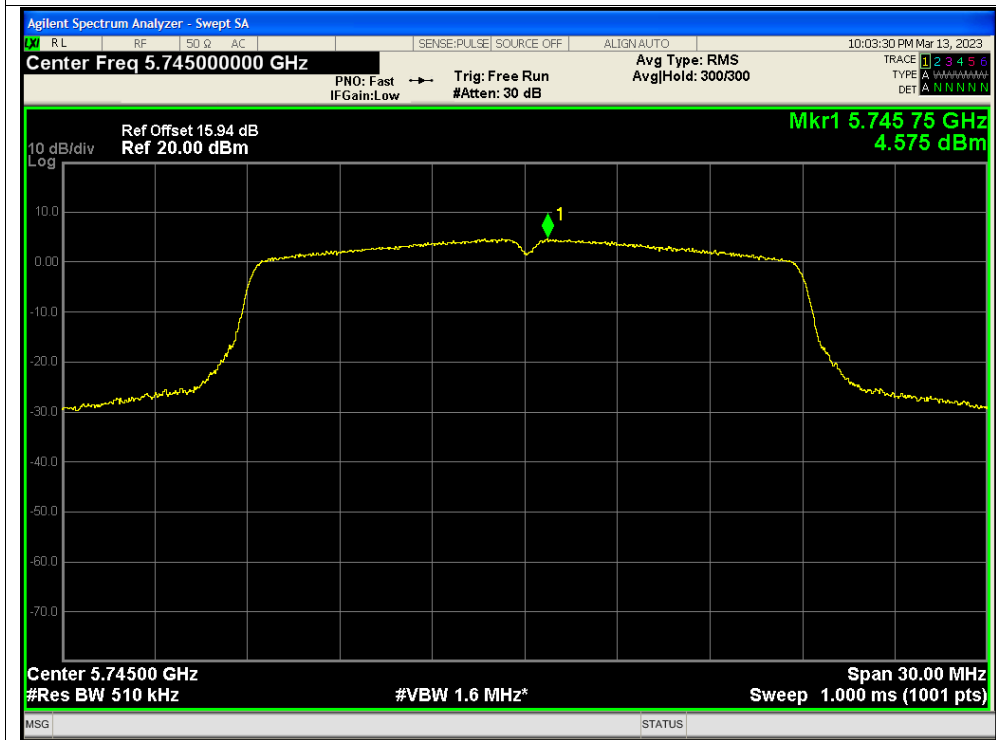


PSD NVNT ac20 5720MHz Ant1

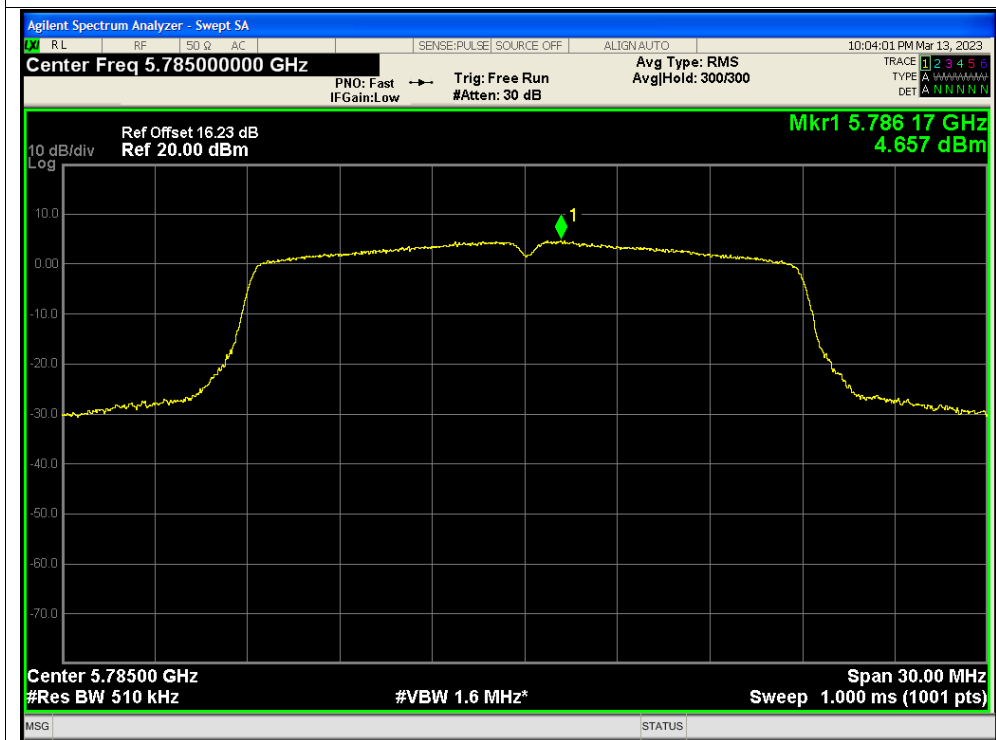




PSD NVNT ac20 5745MHz Ant1

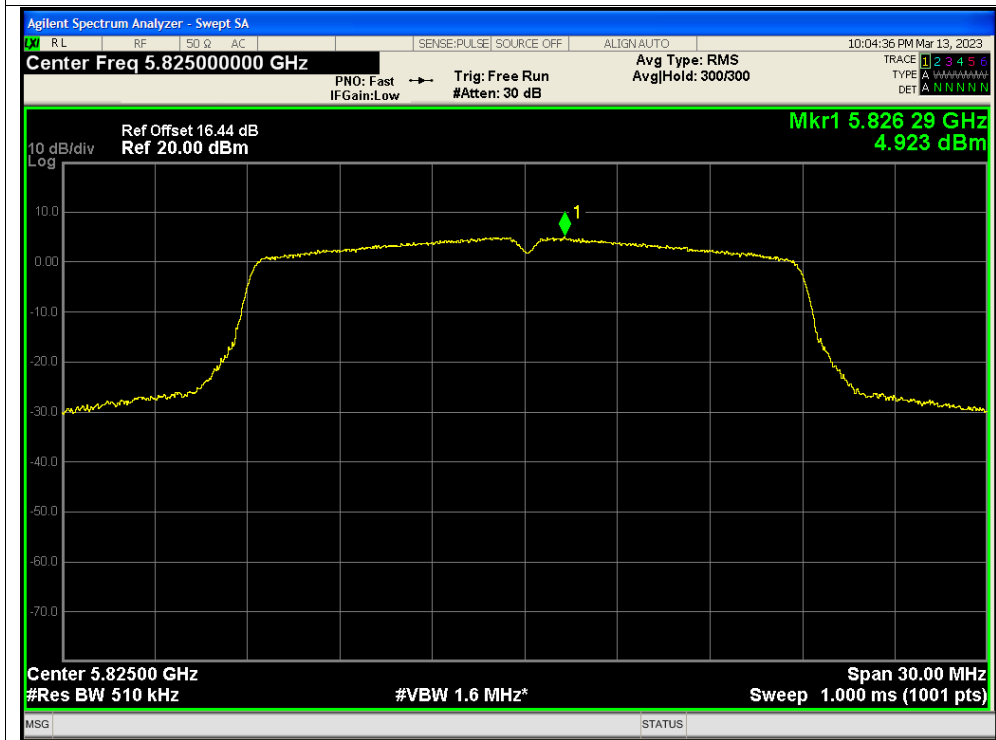


PSD NVNT ac20 5785MHz Ant1





PSD NVNT ac20 5825MHz Ant1

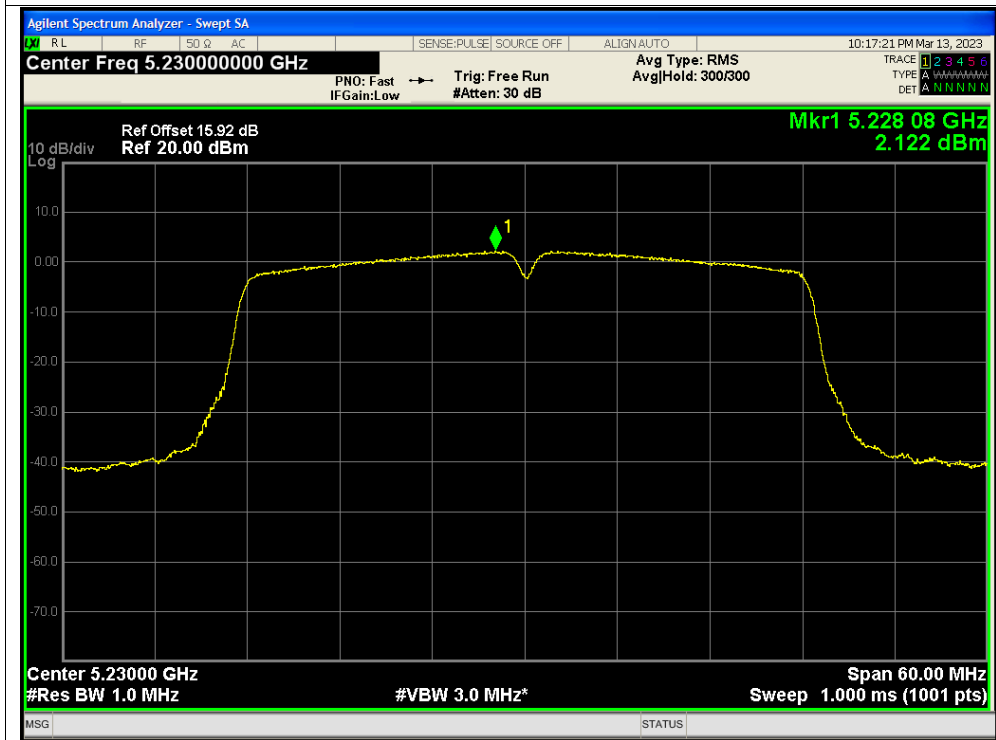


PSD NVNT ac40 5190MHz Ant1

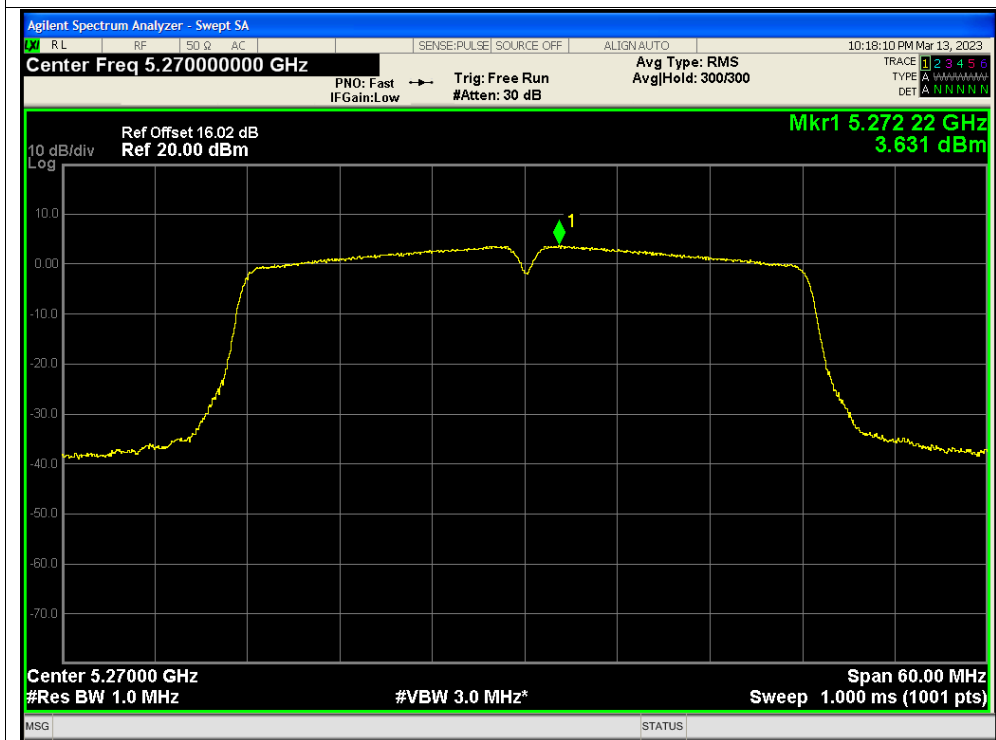




PSD NVNT ac40 5230MHz Ant1

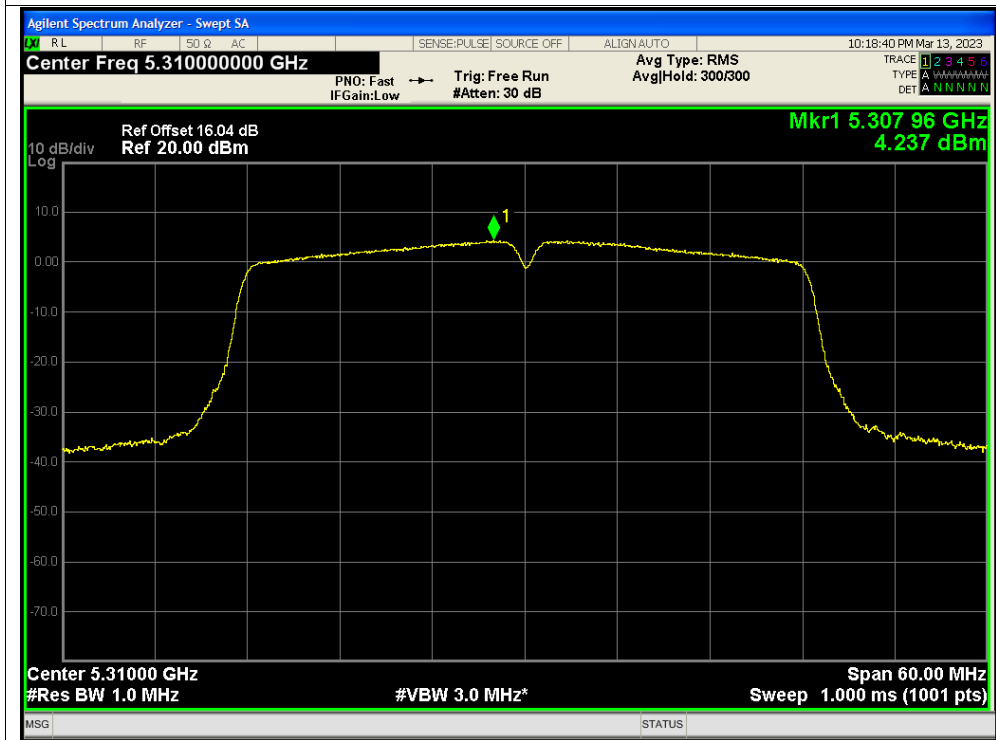


PSD NVNT ac40 5270MHz Ant1

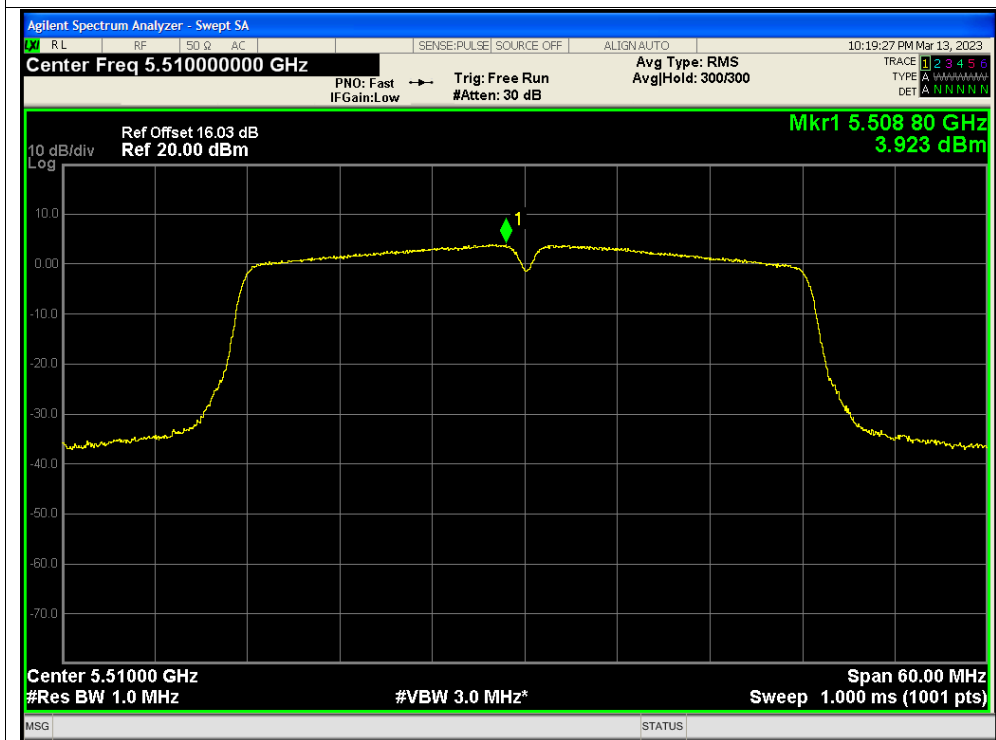




PSD NVNT ac40 5310MHz Ant1

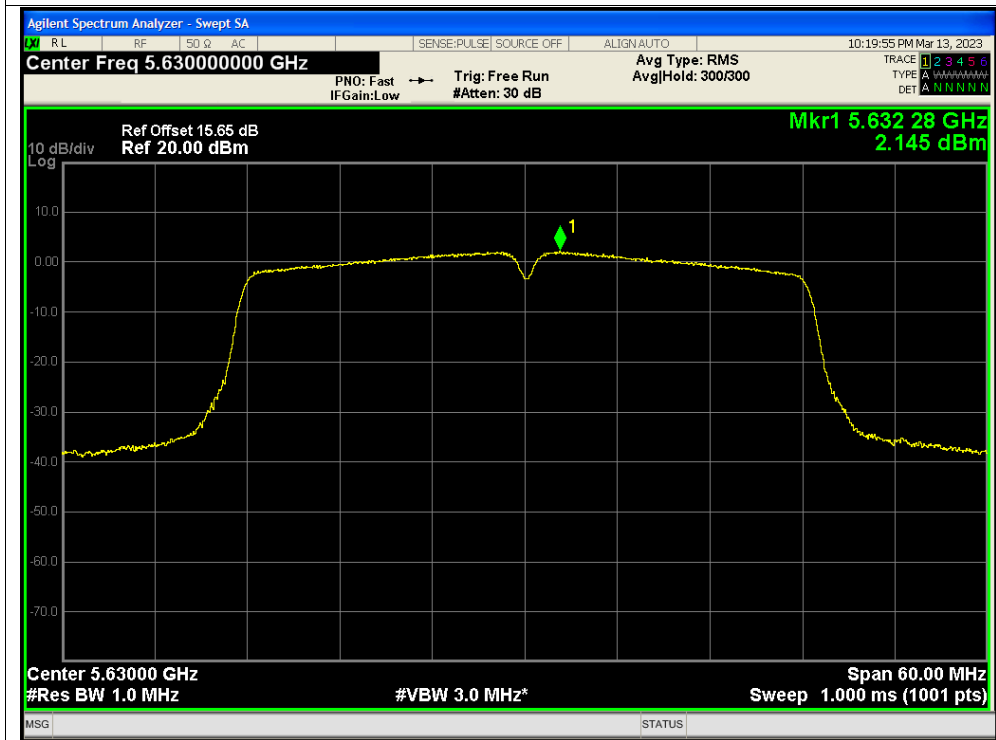


PSD NVNT ac40 5510MHz Ant1

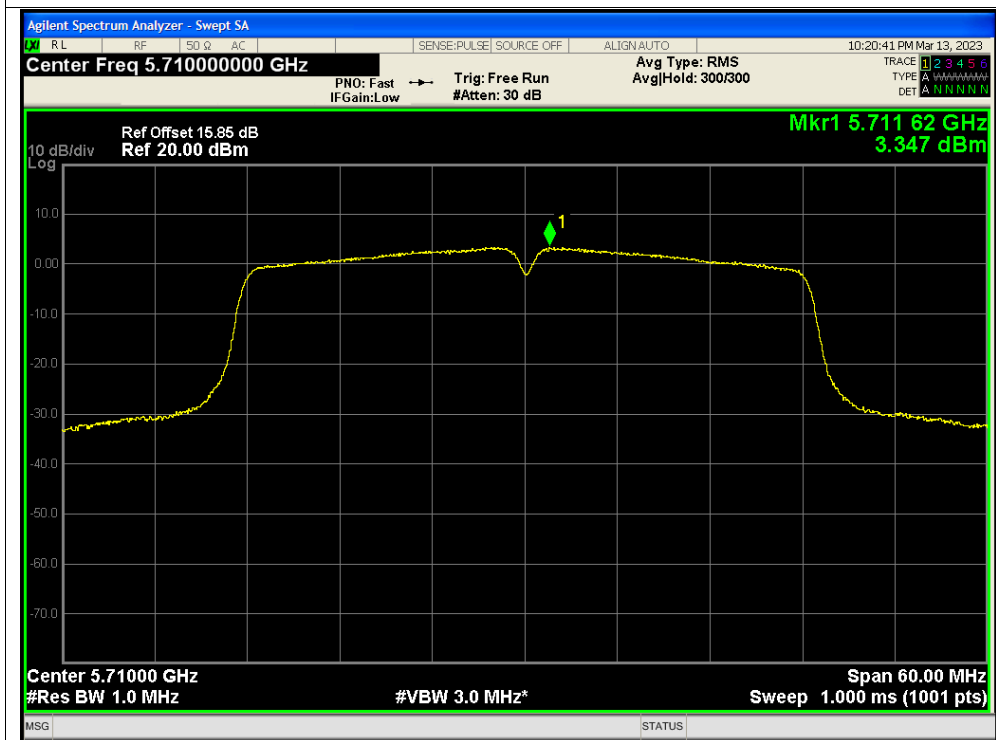




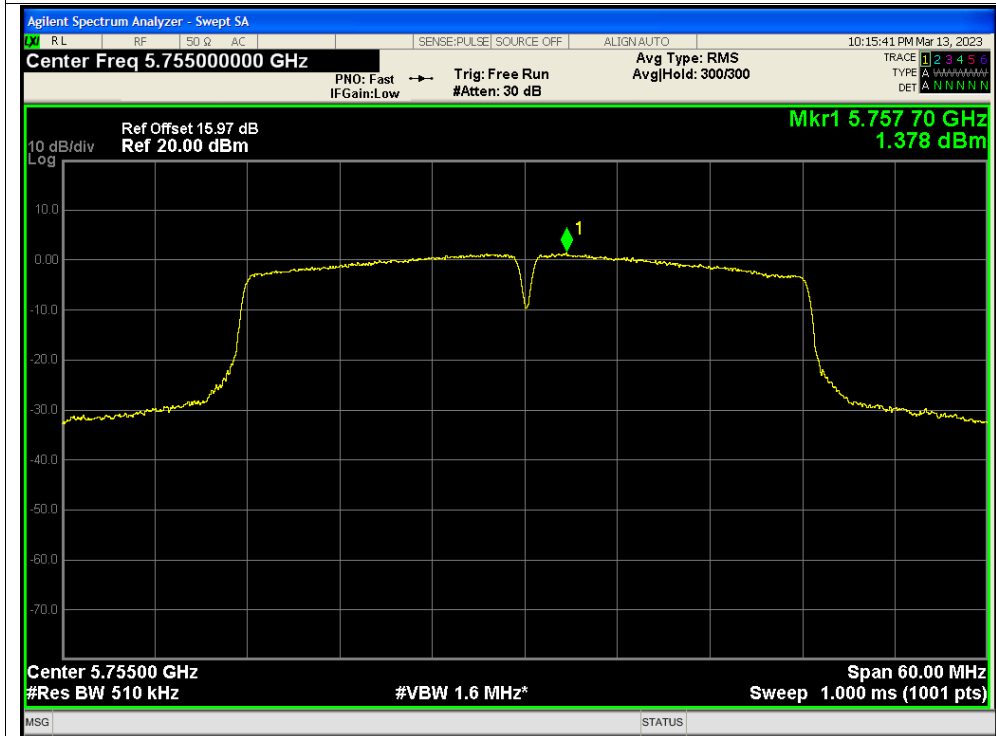
PSD NVNT ac40 5630MHz Ant1



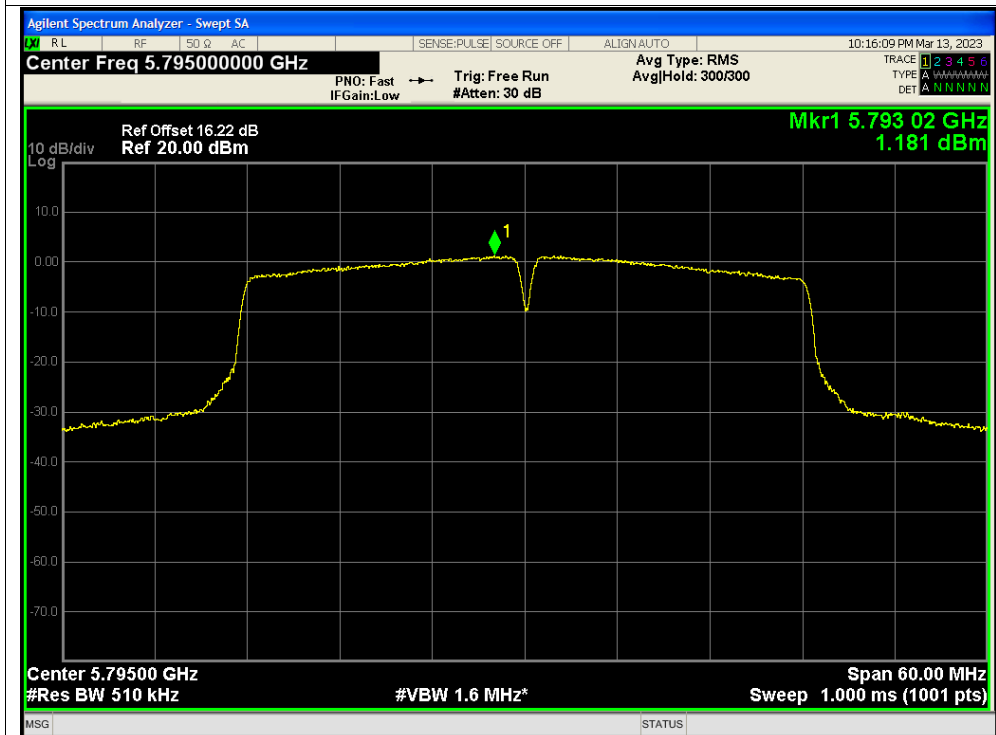
PSD NVNT ac40 5710MHz Ant1



PSD NVNT ac40 5755MHz Ant1



PSD NVNT ac40 5795MHz Ant1



**A.5. Frequency Stability**

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20C 4.4V	a	5180	Ant1	5180.049	49000	9.46	25	Pass
20C 3V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
-30C 3.85V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
-20C 3.85V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
-10C 3.85V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
0C 3.85V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
10C 3.85V	a	5180	Ant1	5180.048	48000	9.27	25	Pass
20C 3.85V	a	5180	Ant1	5180.047	47000	9.07	25	Pass
30C 3.85V	a	5180	Ant1	5180.047	47000	9.07	25	Pass
40C 3.85V	a	5180	Ant1	5180.047	47000	9.07	25	Pass
50C 3.85V	a	5180	Ant1	5180.047	47000	9.07	25	Pass
20C 4.4V	a	5260	Ant1	5260.044	44000	8.37	25	Pass
20C 3V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
-30C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
-20C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
-10C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
0C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
10C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
20C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
30C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
40C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
50C 3.85V	a	5260	Ant1	5260.043	43000	8.17	25	Pass
20C 4.4V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
20C 3V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
-30C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
-20C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
-10C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
0C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
10C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
20C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
30C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
40C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
50C 3.85V	a	5500	Ant1	5500.043	43000	7.82	25	Pass
20C 4.4V	a	5745	Ant1	5745.043	43000	7.48	25	Pass



20C 3V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
-30C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
-20C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
-10C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
0C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
10C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
20C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
30C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
40C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass
50C 3.85V	a	5745	Ant1	5745.043	43000	7.48	25	Pass



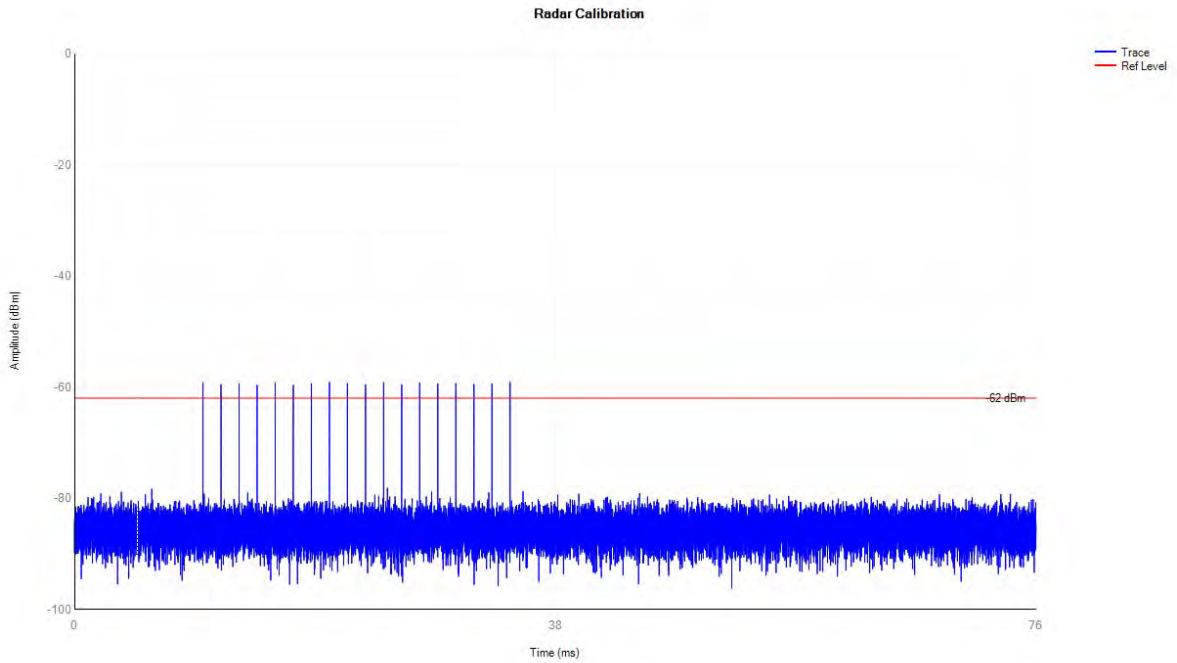
A.6. Dynamic Frequency Selection

Detection Thresholds

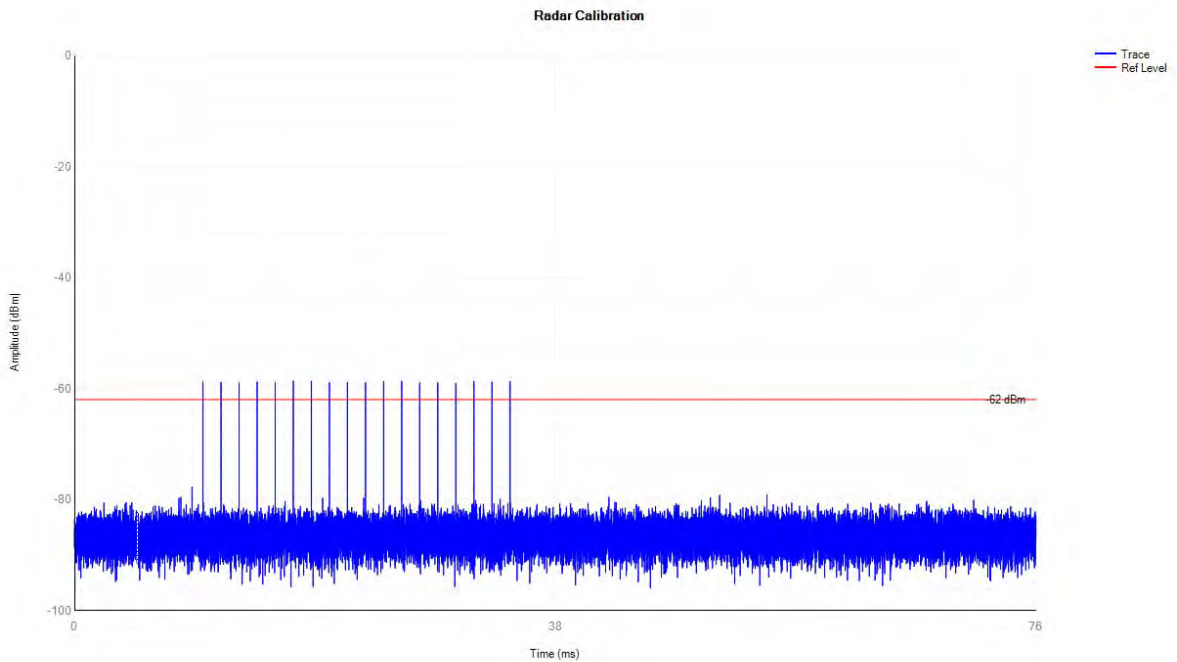
Mode	Frequency (MHz)	Type	Result	Verdict
a	5320	DFS_FCC_T0	See test Graph	Pass
a	5500	DFS_FCC_T0	See test Graph	Pass
ac40	5310	DFS_FCC_T0	See test Graph	Pass
ac40	5510	DFS_FCC_T0	See test Graph	Pass

Test Graphs

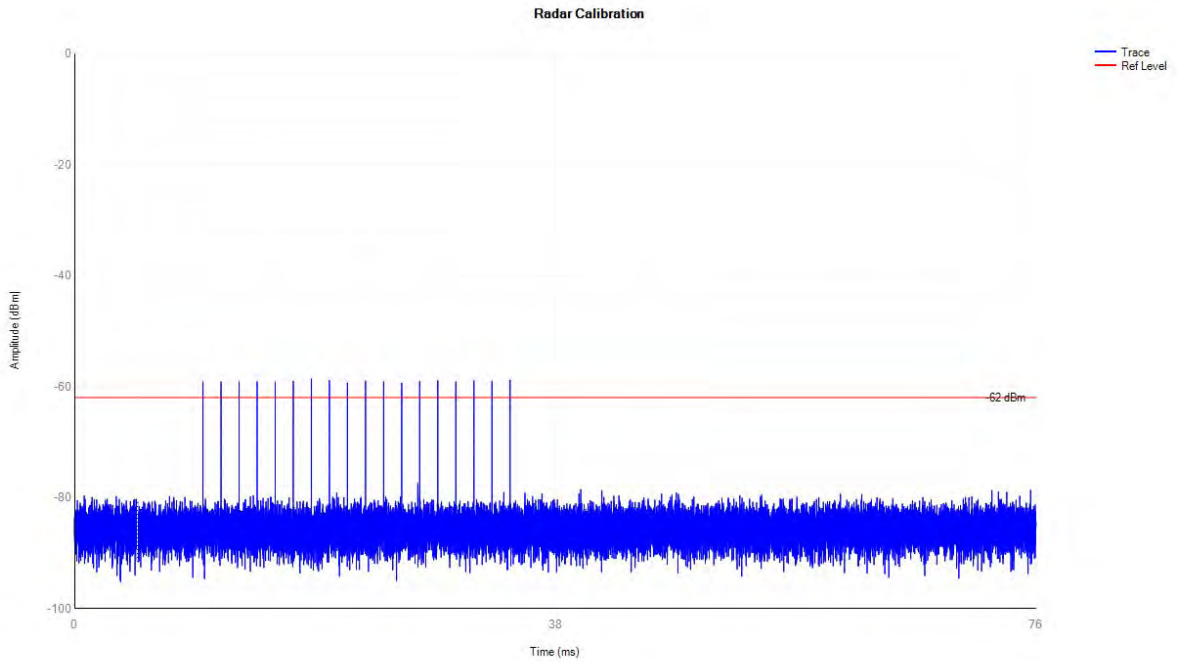
5320MHz DFS_FCC_T0



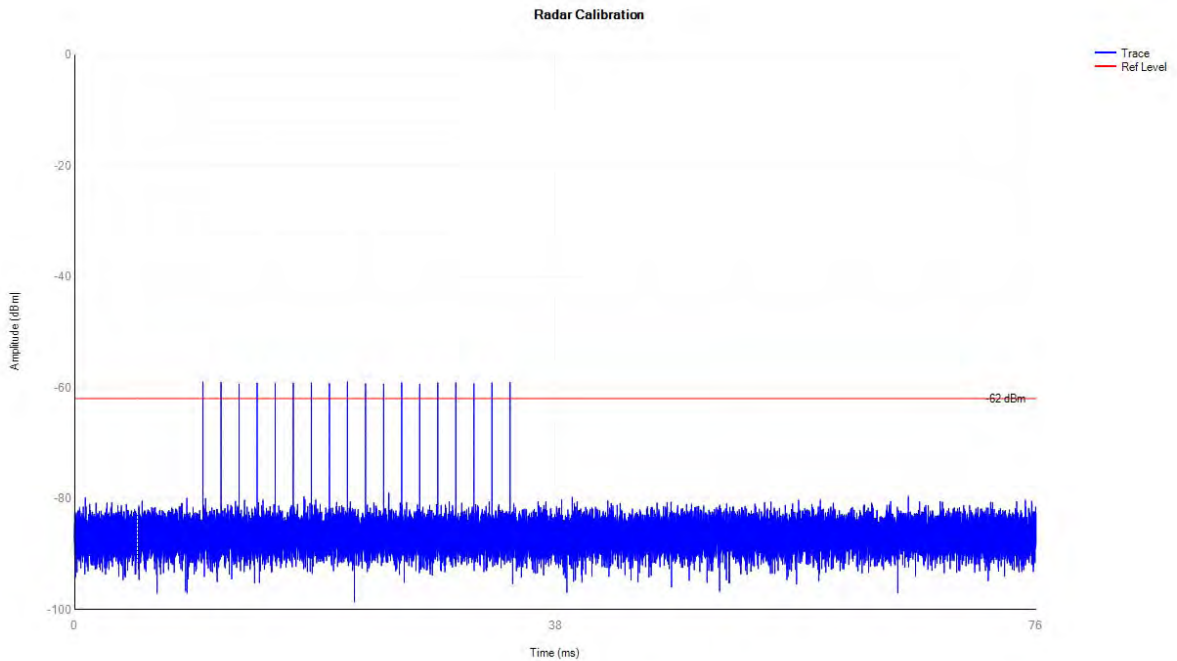
5500MHz DFS_FCC_T0



5310MHz DFS_FCC_T0



5510MHz DFS_FCC_T0





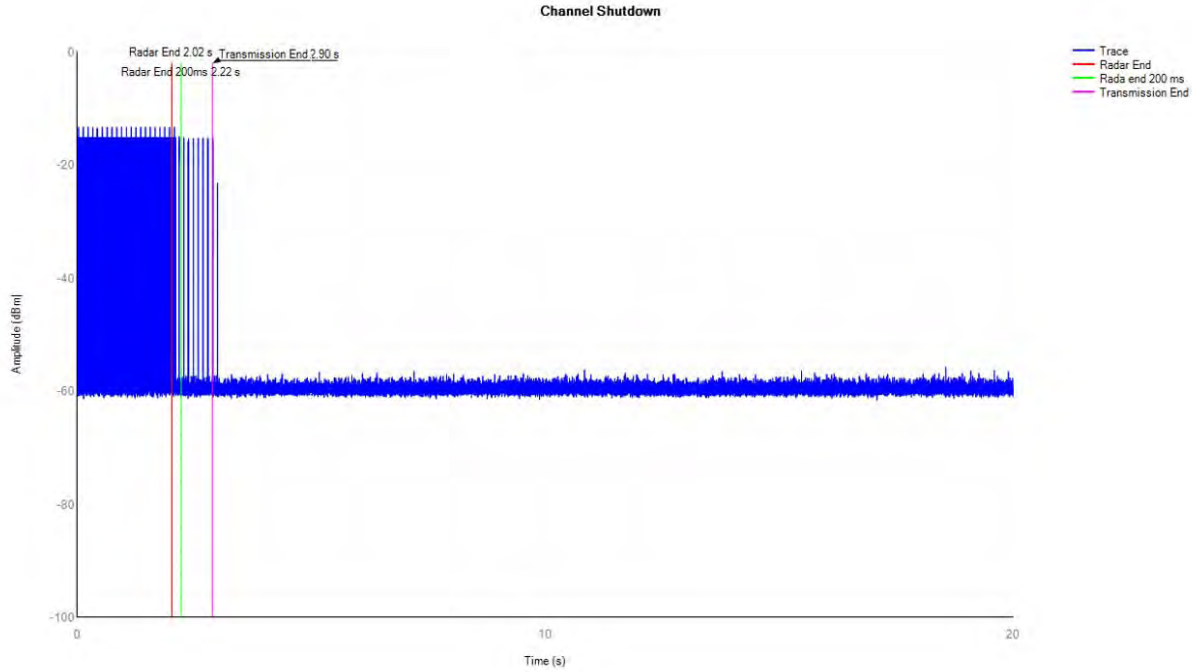
Channel Move Time and Channel Closing Transmission Time

Mode	Frequency (MHz)	Channel Move Time (s)	Limit Channel Move Time (s)	Close Transmission Time (s)	Limit Close Transmission Time (s)	Close Transmission Time after 200ms(s)	Limit Close Transmission Time after 200ms (s)	Verdict
a	5320	0.873	10	0.029	0.26	0.013	0.06	Pass
a	5500	0.887	10	0.029	0.26	0.014	0.06	Pass
ac40	5310	0	10	0	0.26	0	0.06	Pass
ac40	5510	0	10	0	0.26	0	0.06	Pass

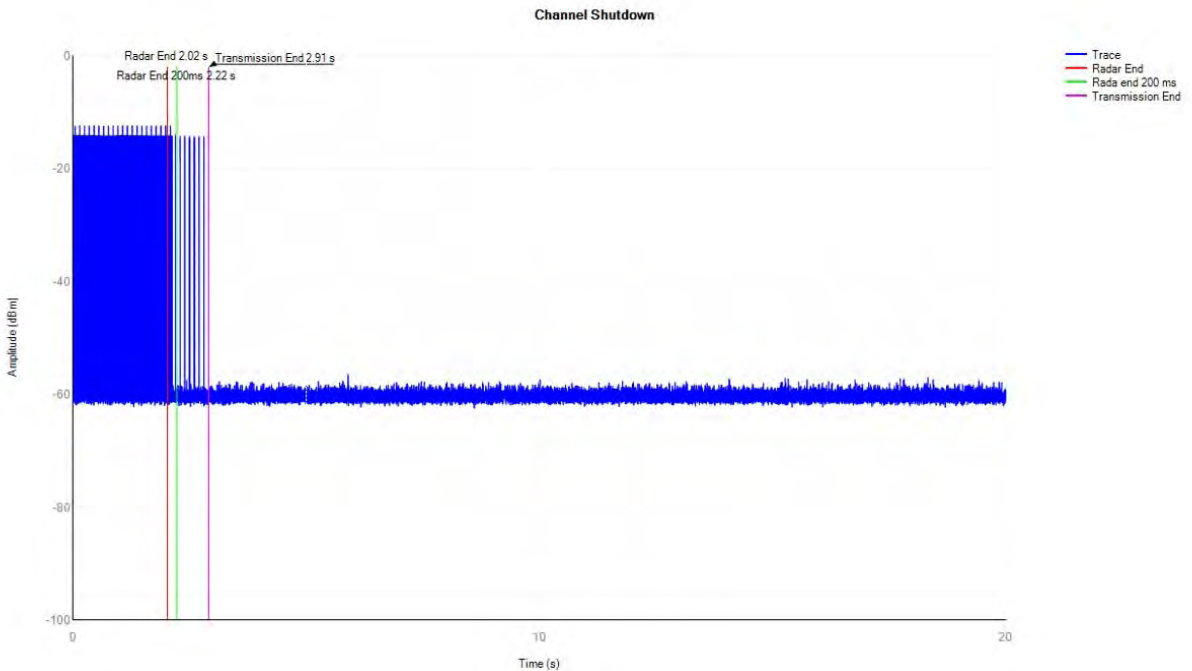


Test Graphs

a 5320MHz Shutdown

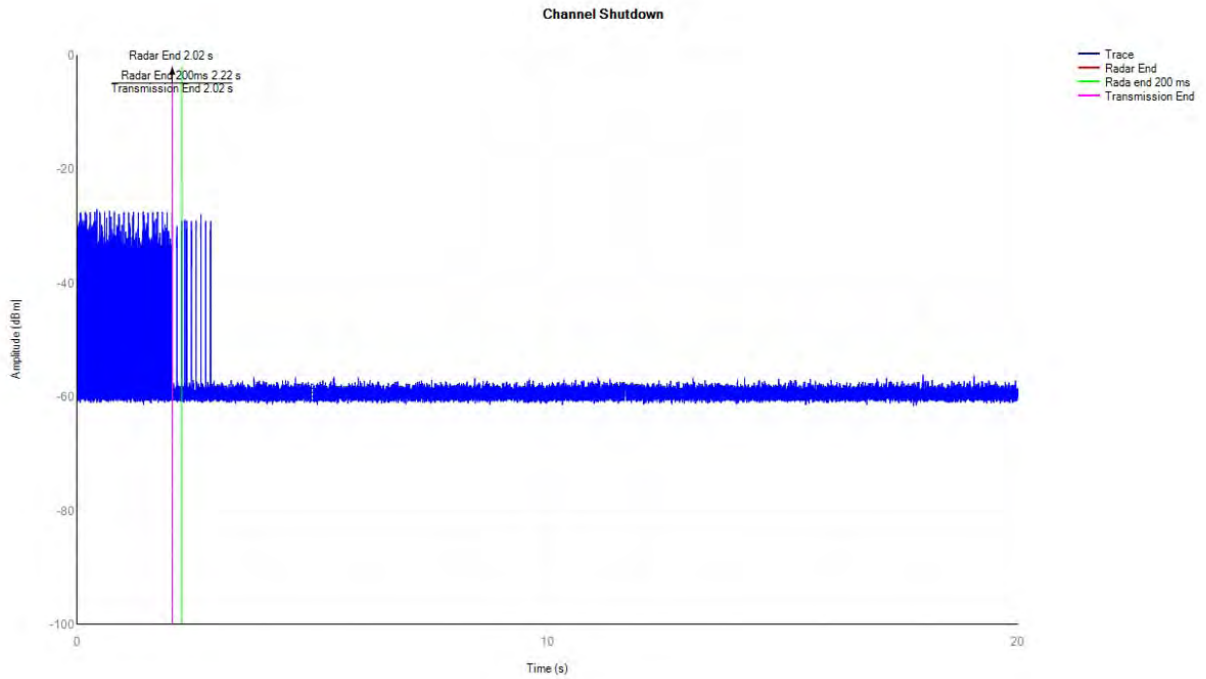


a 5500MHz Shutdown

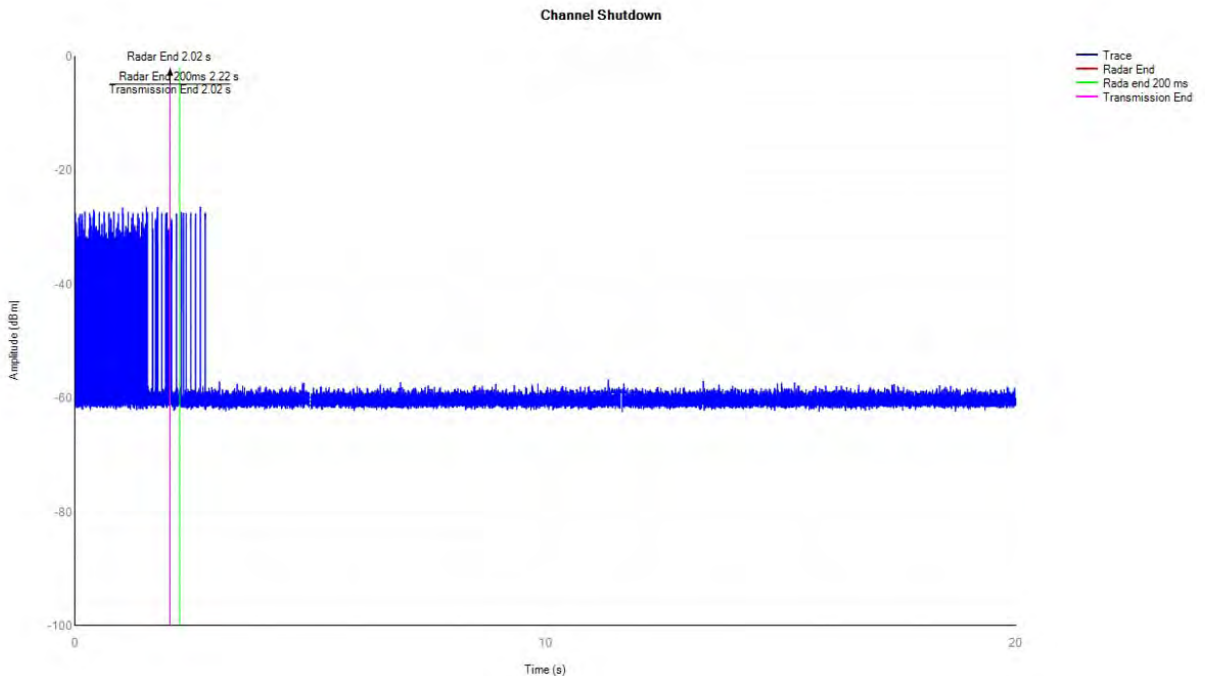




ac40 5310MHz Shutdown



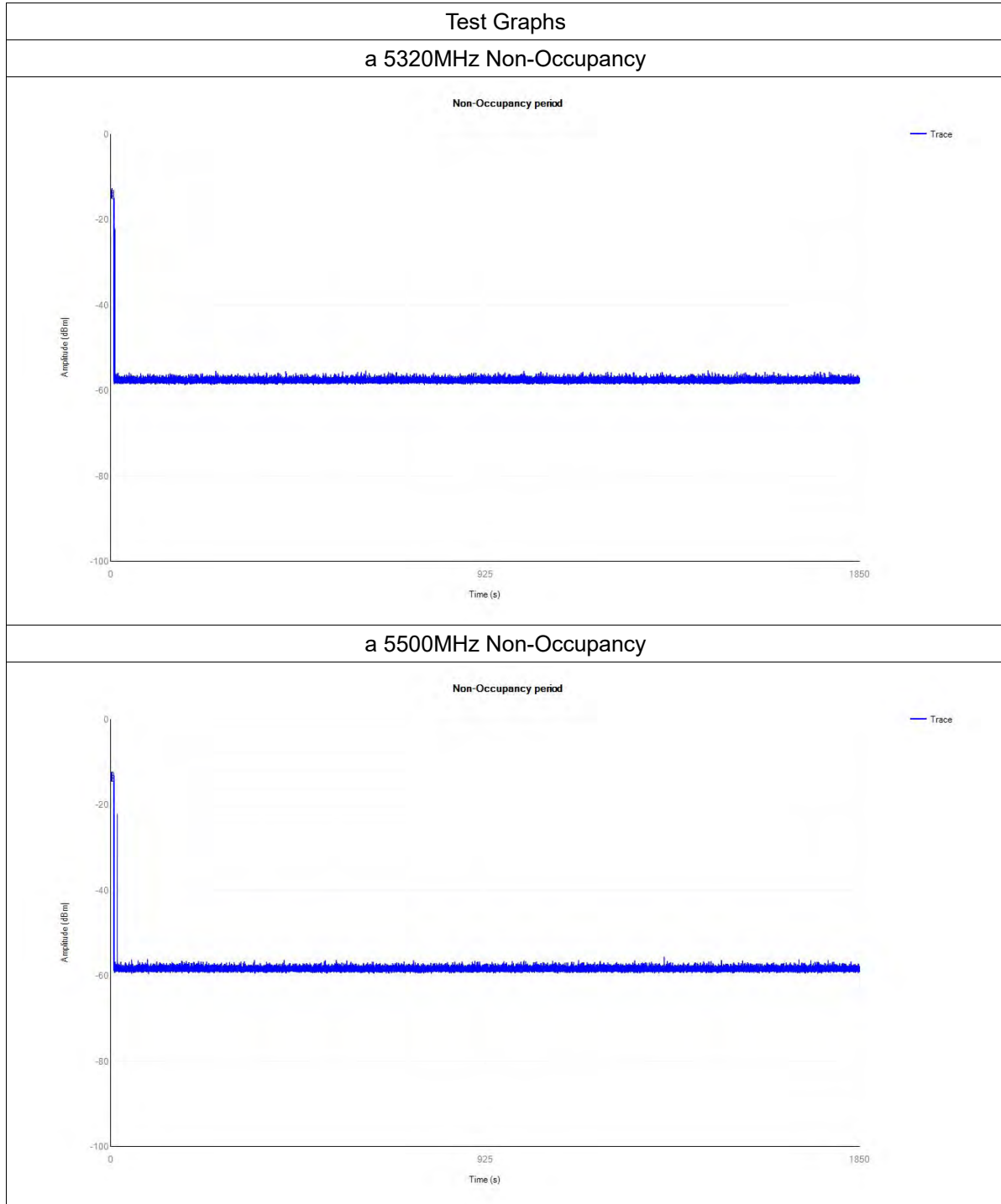
ac40 5510MHz Shutdown





Non-Occupancy Period

Mode	Frequency (MHz)	Result	Verdict
a	5320	See test Graph	Pass
a	5500	See test Graph	Pass





A.7. Conducted Emission

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT + ADAPTER + USB CABLE +WIFI TX

Test voltage: AC 120V/60Hz

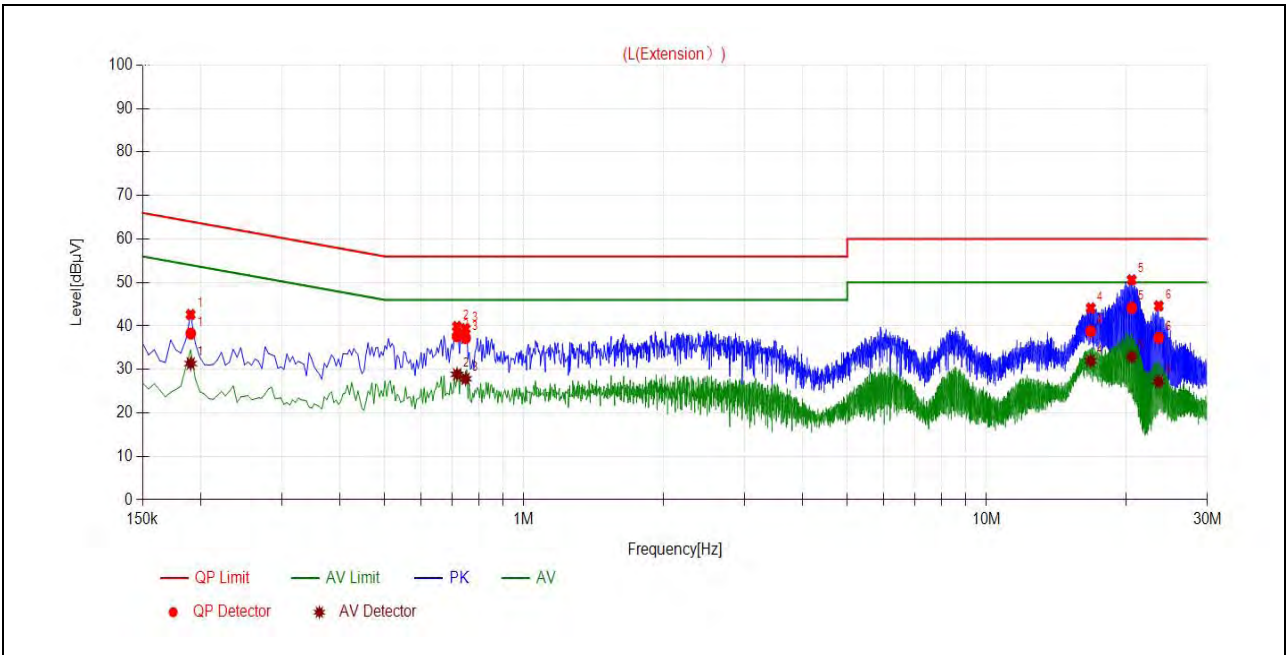
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

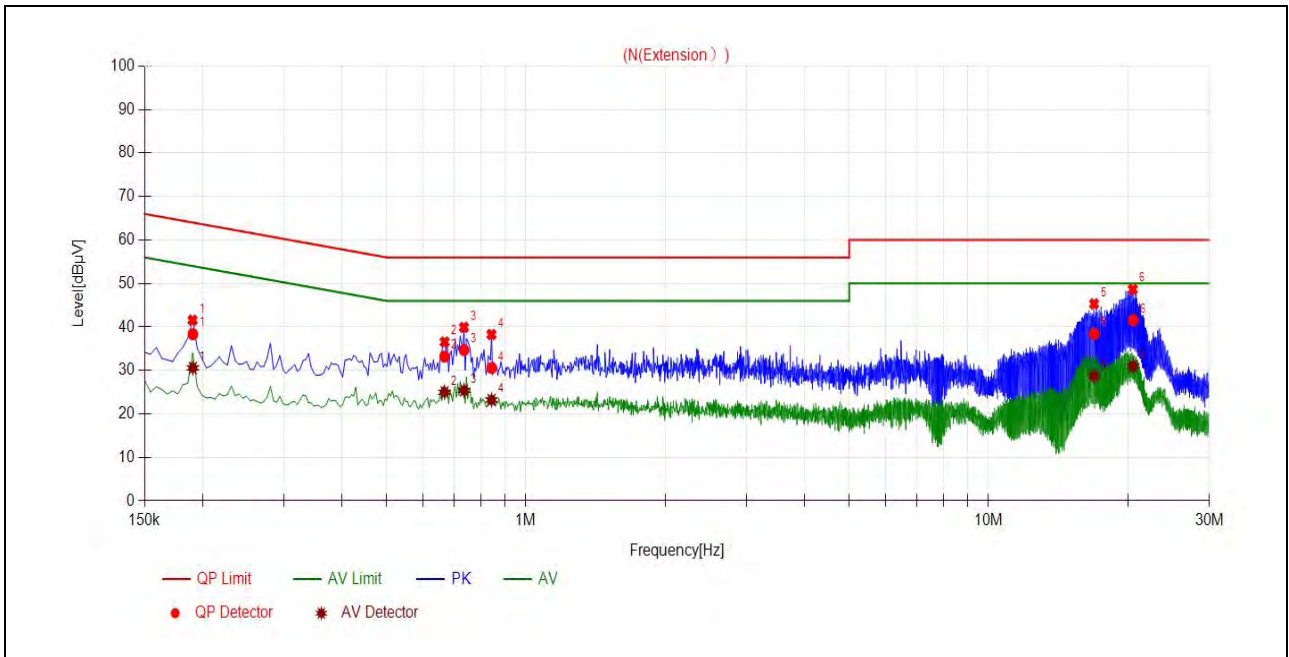
A_{Factor} : Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1906	38.25	31.35	64.01	54.01	Line	PASS
2	0.7171	37.62	28.87	56.00	46.00		PASS
3	0.7484	37.23	27.85	56.00	46.00		PASS
4	16.7897	38.77	31.97	60.00	50.00		PASS
5	20.6026	44.17	32.89	60.00	50.00		PASS
6	23.5520	37.28	27.18	60.00	50.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBµV)		Limit (dBµV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1907	38.34	30.57	64.01	54.01	Neutral	PASS
2	0.6674	33.18	24.98	56.00	46.00		PASS
3	0.7352	34.68	25.42	56.00	46.00		PASS
4	0.8432	30.56	23.20	56.00	46.00		PASS
5	16.9045	38.41	28.70	60.00	50.00		PASS
6	20.5194	41.55	30.96	60.00	50.00		PASS

**A.8. Restricted Frequency Bands**

The lowest and highest channels are tested to verify the Restricted Frequency Bands.

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

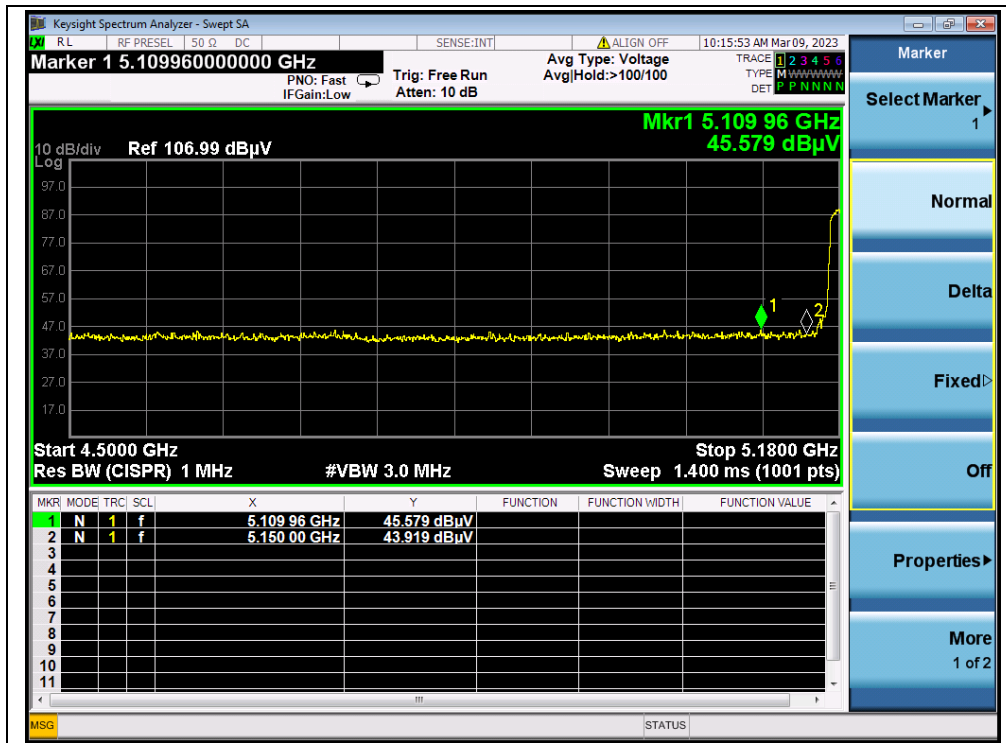
A_{Factor} : Antenna Factor at 3m

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

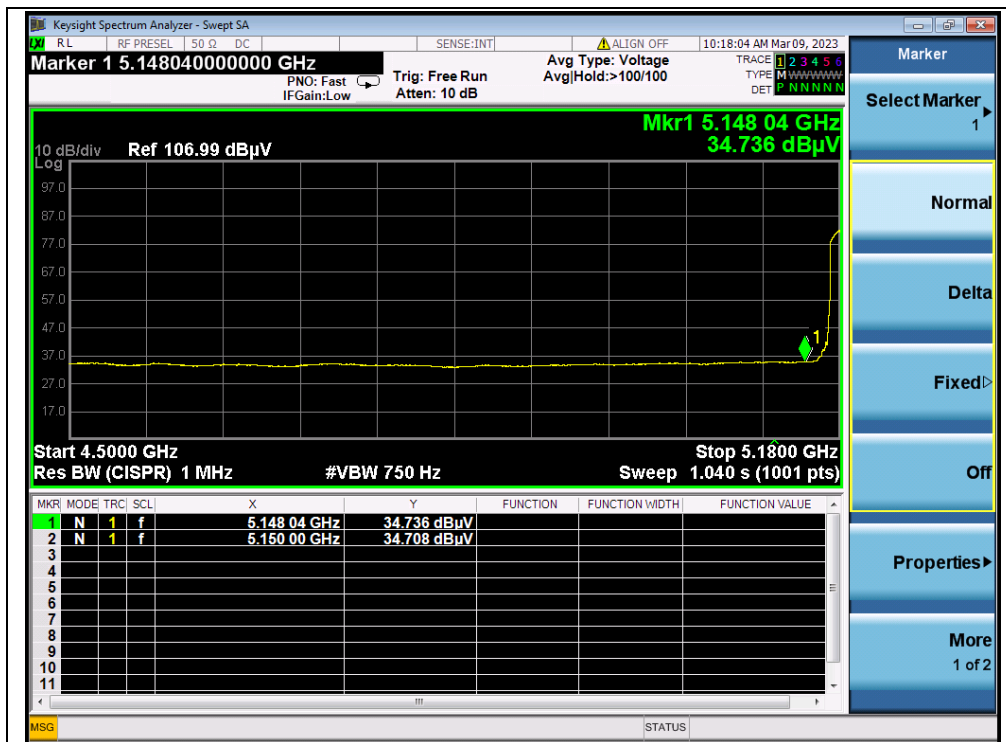
Note 2: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

802.11a Mode

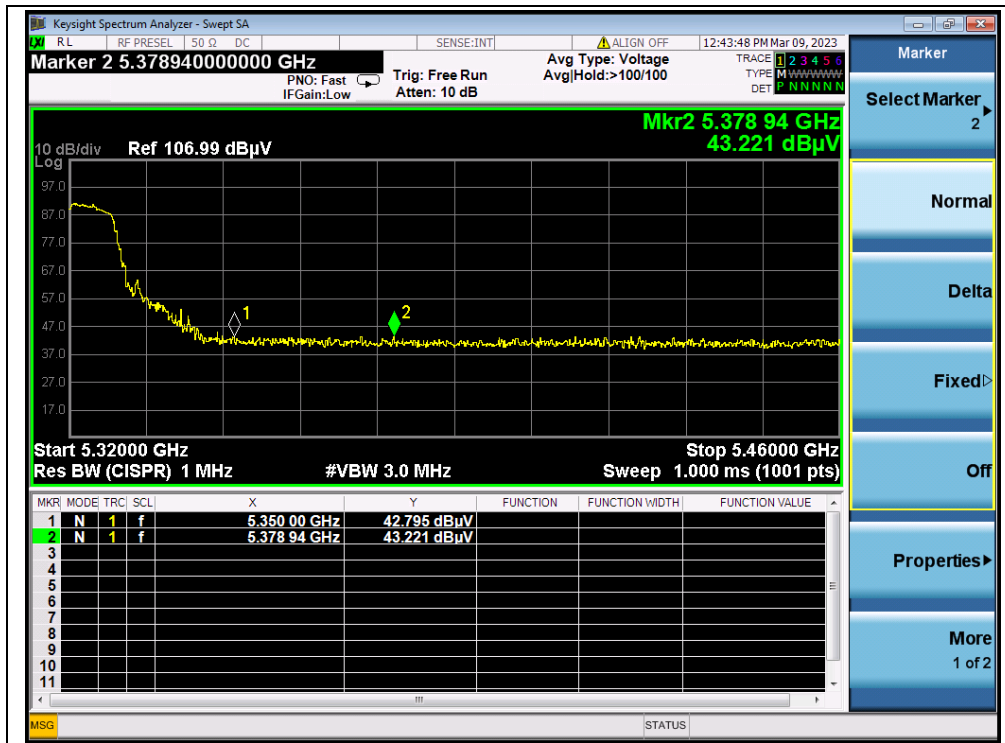
Channel	Frequency (MHz)	Detector	Receiver Reading	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV	U_R (dB μ V)					
36	5109.96	PK	45.58	-19.54	32.20	58.24	74	PASS
36	5148.04	AV	34.74	-19.54	32.20	47.40	54	PASS
64	5378.94	PK	43.22	-18.80	32.20	56.62	74	PASS
64	5351.08	AV	33.61	-18.80	32.20	47.01	54	PASS
100	5456.50	PK	44.90	-19.20	32.20	57.90	74	PASS
100	5470.00	AV	33.65	-19.20	32.20	46.65	54	PASS
144	5725.80	PK	45.42	-19.20	32.20	58.42	68.23	PASS
149	5725.00	PK	51.09	-19.01	32.20	64.28	122.23	PASS
165	5850.00	PK	43.91	-19.01	32.20	57.10	122.23	PASS



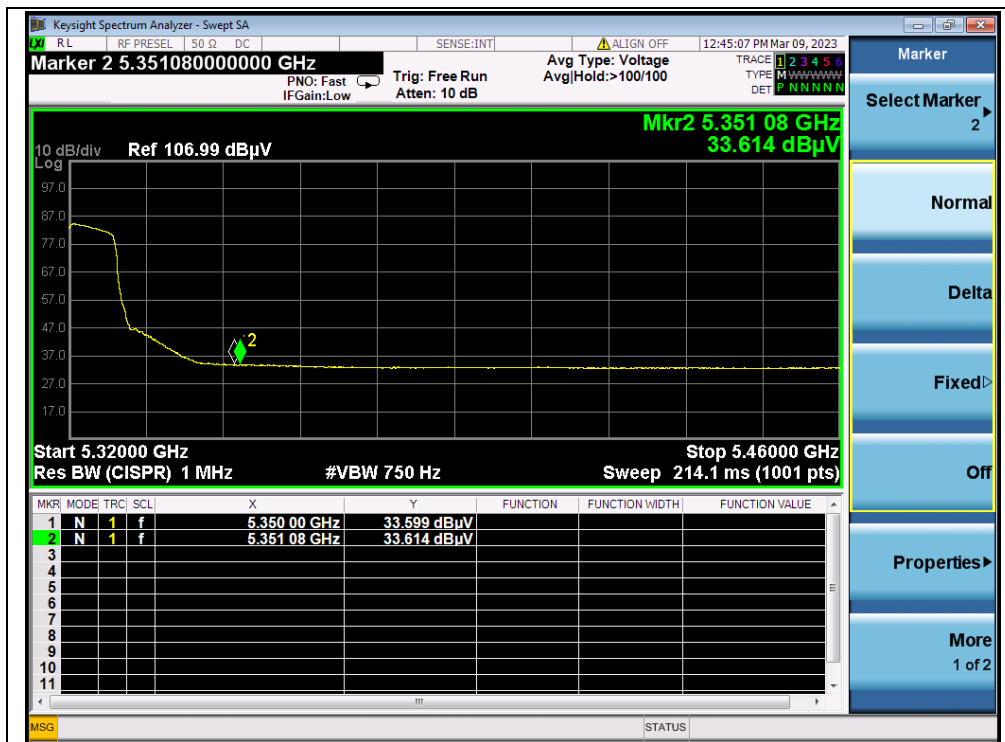
(PEAK, Channel 36, 802.11a)



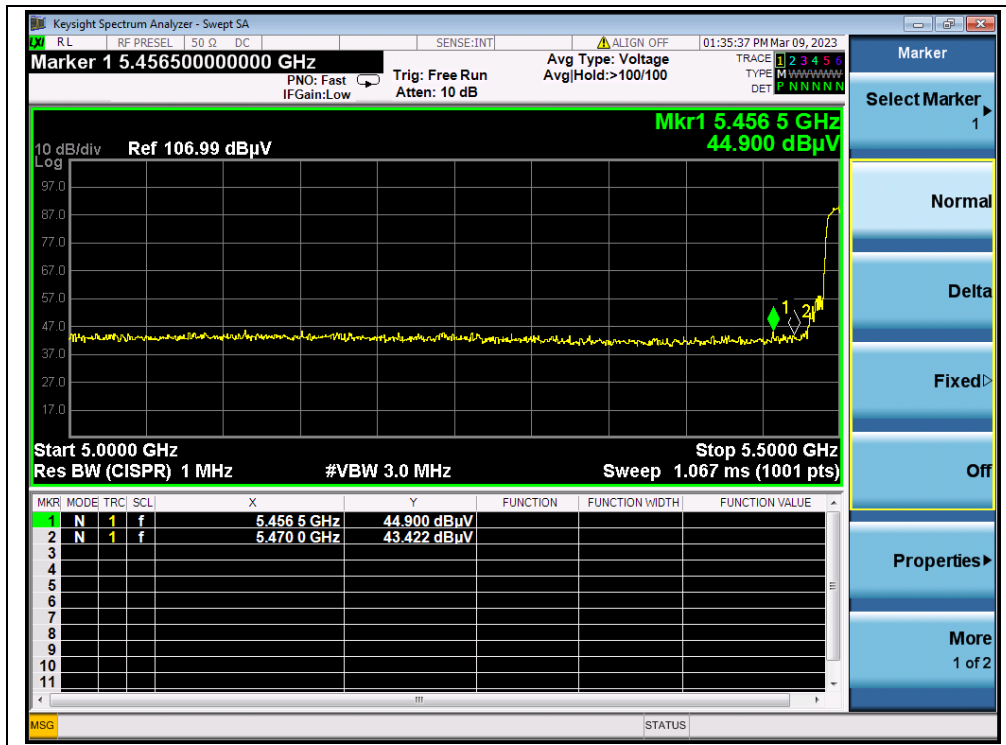
(AVERAGE, Channel 36, 802.11a)



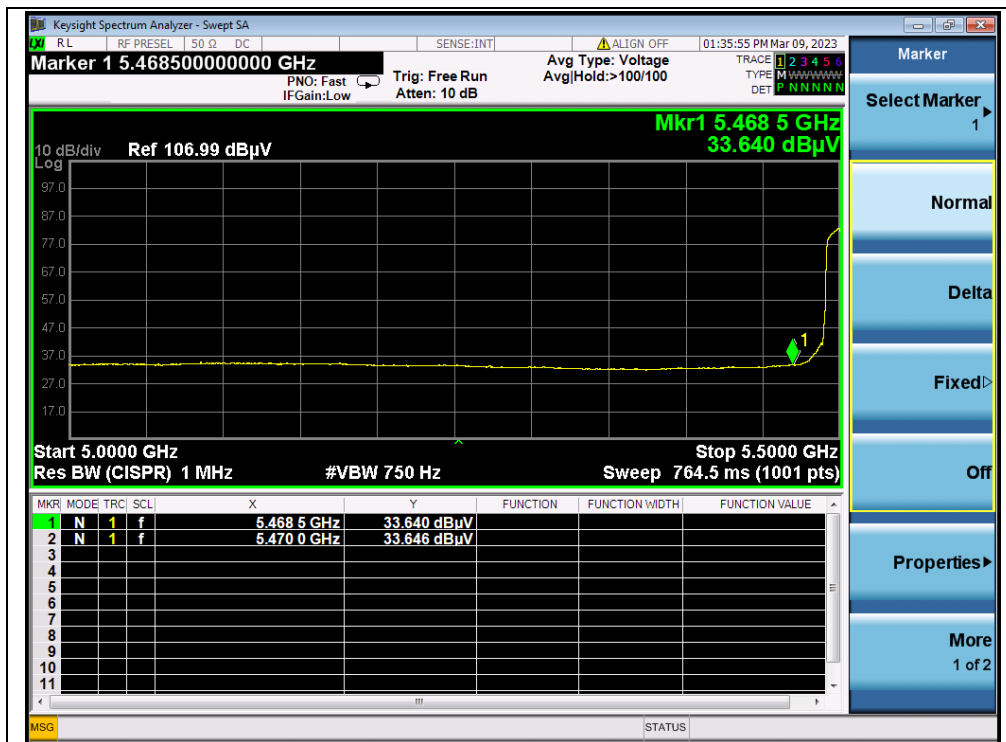
(PEAK, Channel 64, 802.11a)



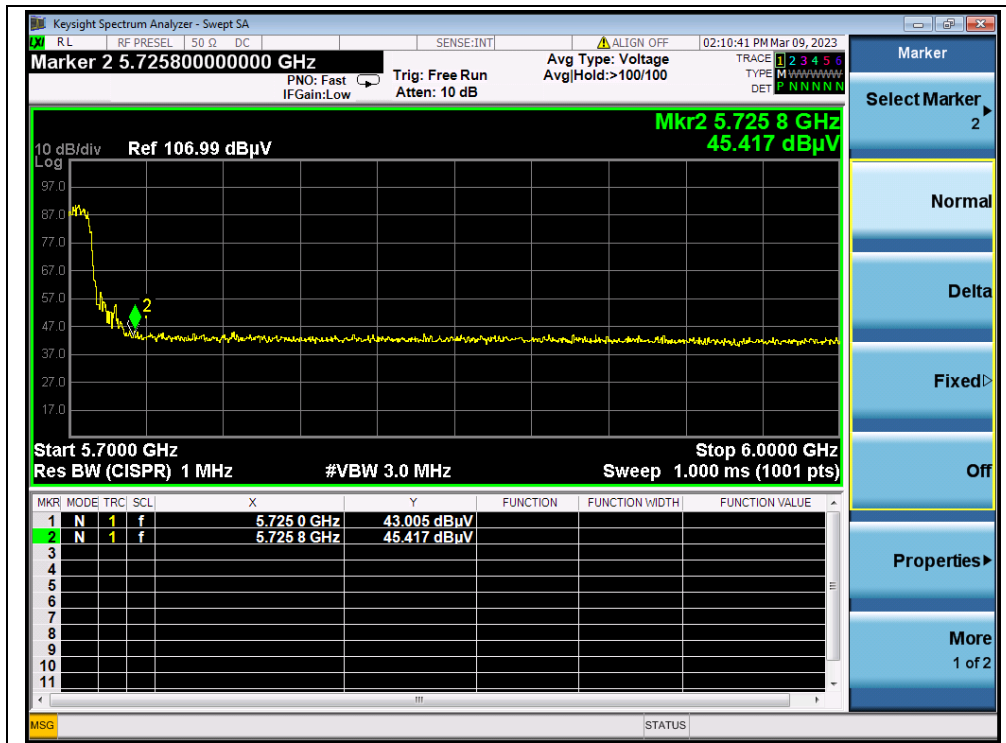
(AVERAGE, Channel 64, 802.11a)



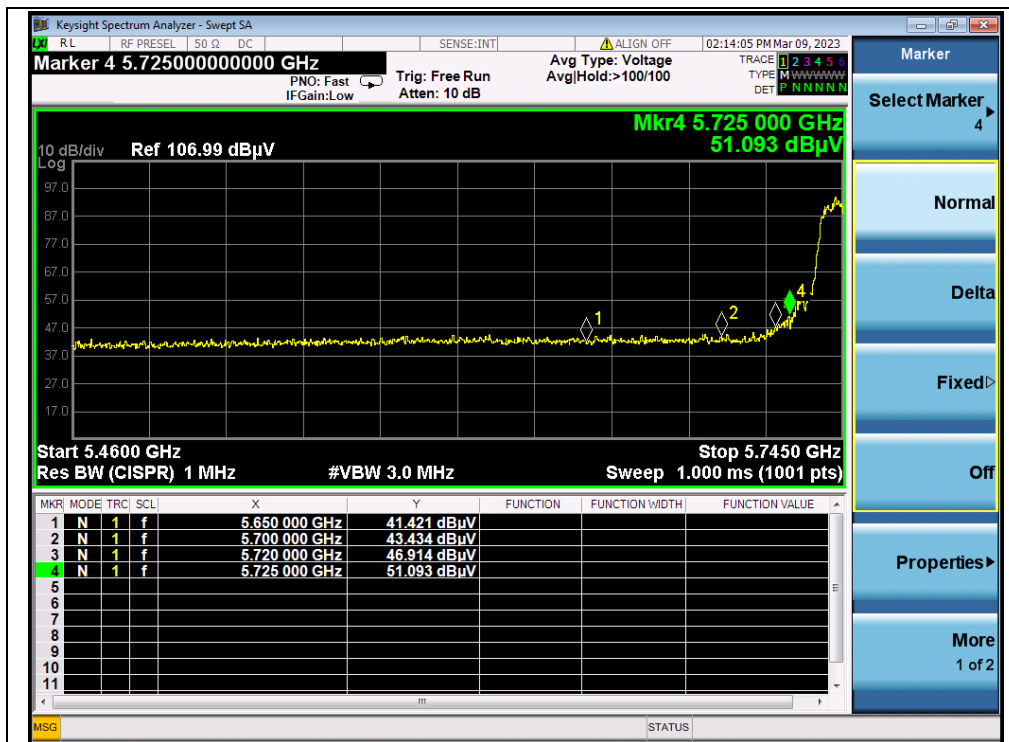
(PEAK, Channel 100, 802.11a)



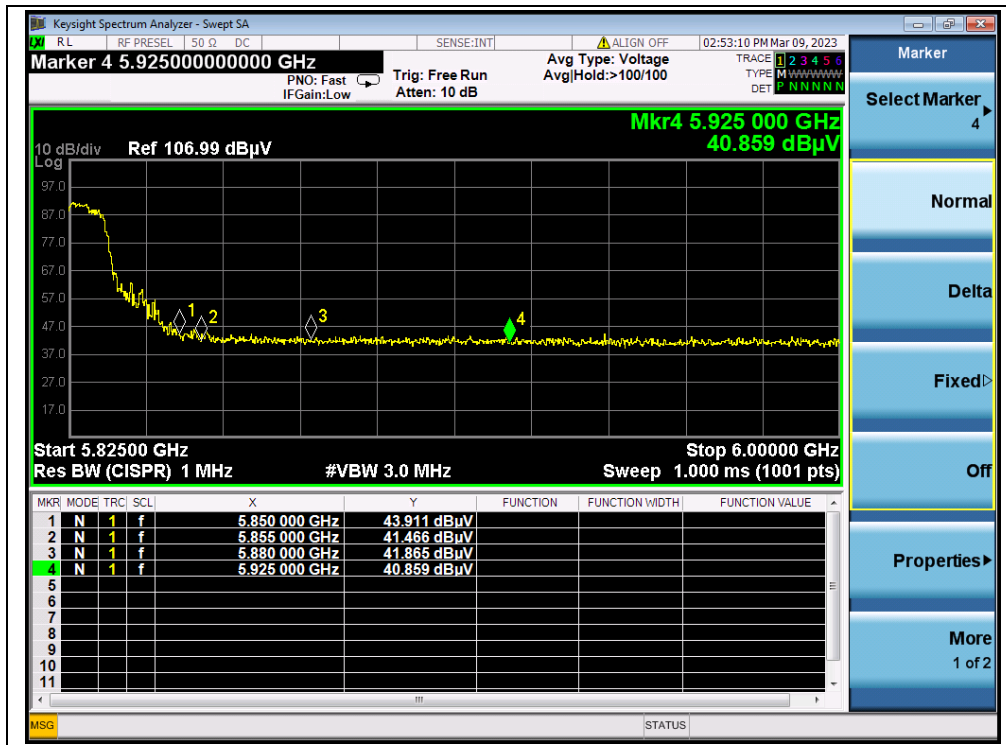
(AVERAGE, Channel 100, 802.11a)



(PEAK, Channel 144, 802.11a)



(PEAK, Channel 149, 802.11a)

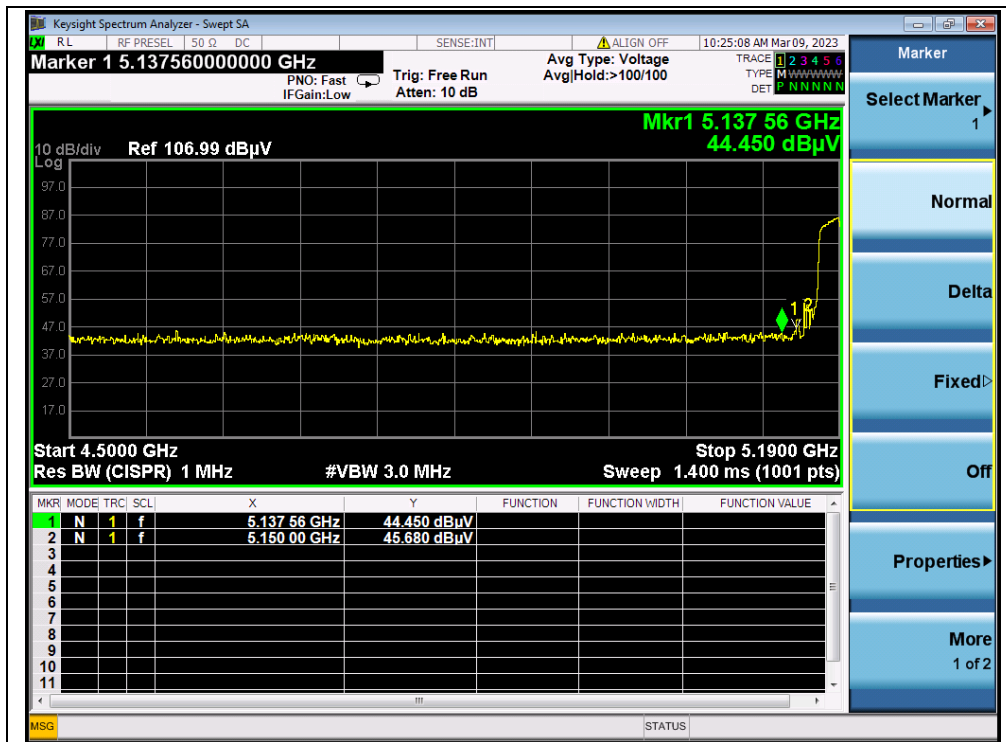


(PEAK, Channel 165, 802.11a)

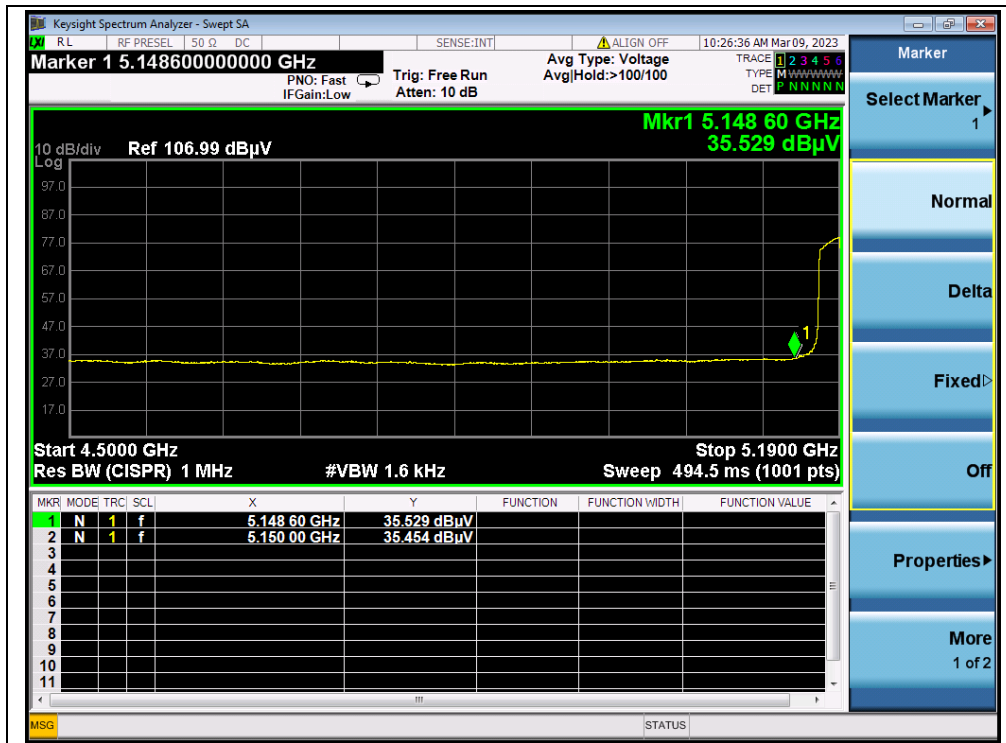


802.11n (HT40) Mode

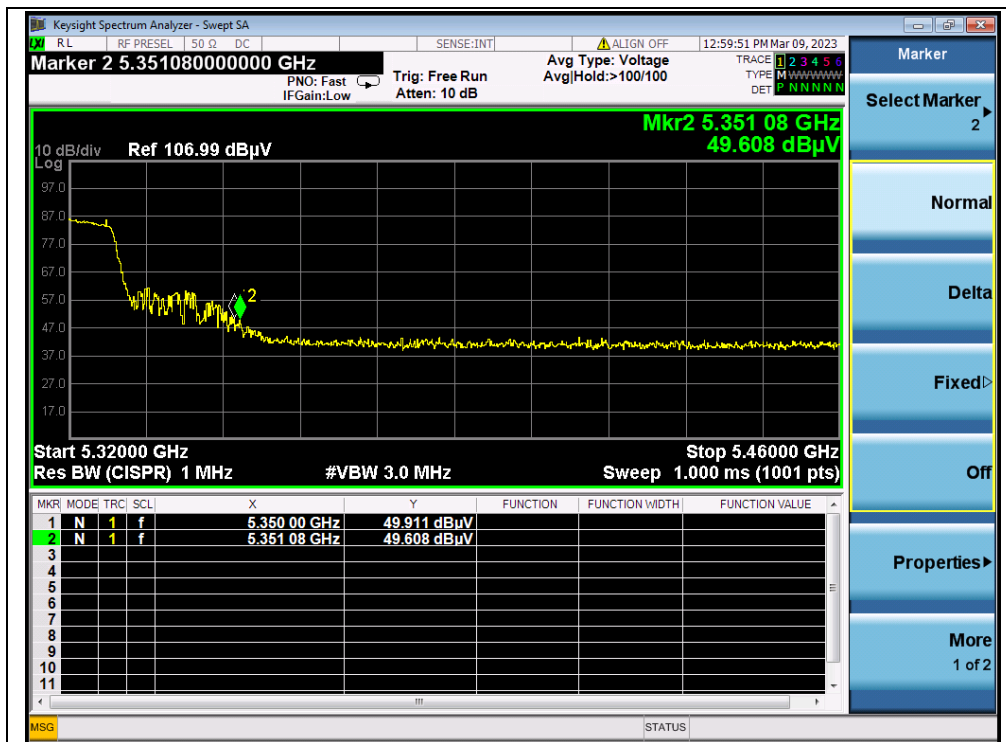
Channel	Frequency (MHz)	Detector	Receiver Reading U _R (dBμV)	A _T (dB)	A _{Factor} (dB@3m)	Max. Emission E (dBμV/m)	Limit (dBμV/m)	Verdict
		PK/ AV						
38	5150.00	PK	45.68	-19.54	32.20	58.34	74	PASS
38	5148.60	AV	35.53	-19.54	32.20	48.19	54	PASS
62	5350.00	PK	49.91	-18.80	32.20	63.31	74	PASS
62	5350.00	AV	36.50	-18.80	32.20	49.90	54	PASS
102	5470.00	PK	48.75	-19.20	32.20	61.75	68.23	PASS
102	5470.00	AV	35.34	-19.20	32.20	48.34	54	PASS
142	5799.69	PK	44.47	-19.20	32.20	57.47	68.23	PASS
151	5725.00	PK	52.15	-19.01	32.20	65.34	122.23	PASS
159	5850.00	PK	43.75	-19.01	32.20	56.94	122.23	PASS



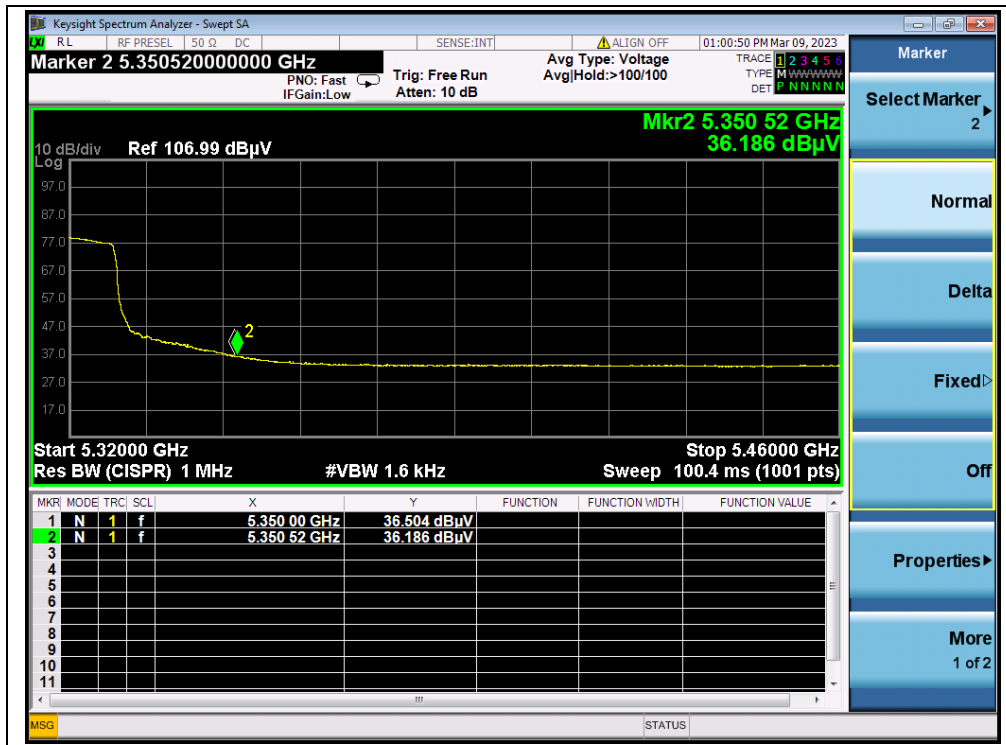
(PEAK, Channel 38, 802.11n (HT40))



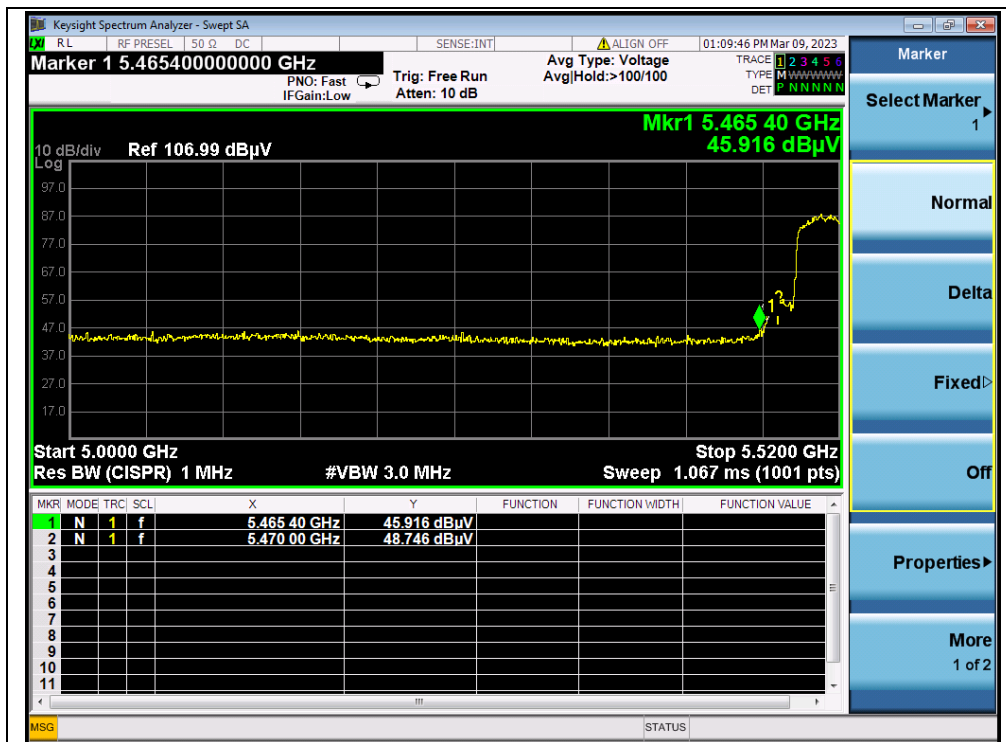
(AVERAGE, Channel 38, 802.11n (HT40))



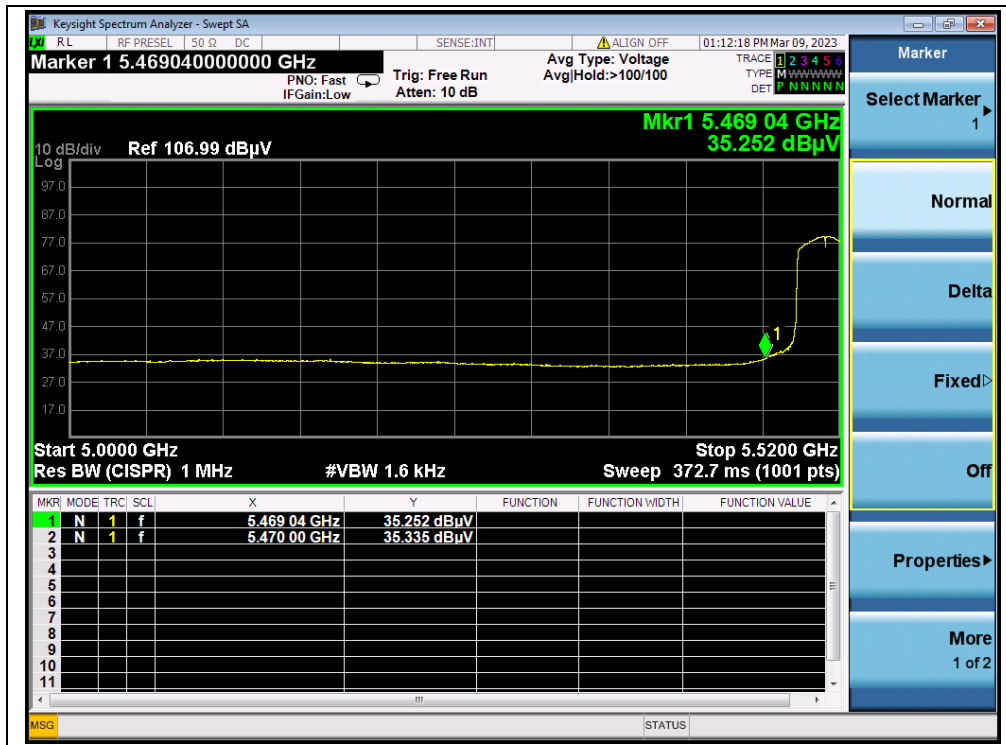
(PEAK, Channel 62, 802.11n (HT40))



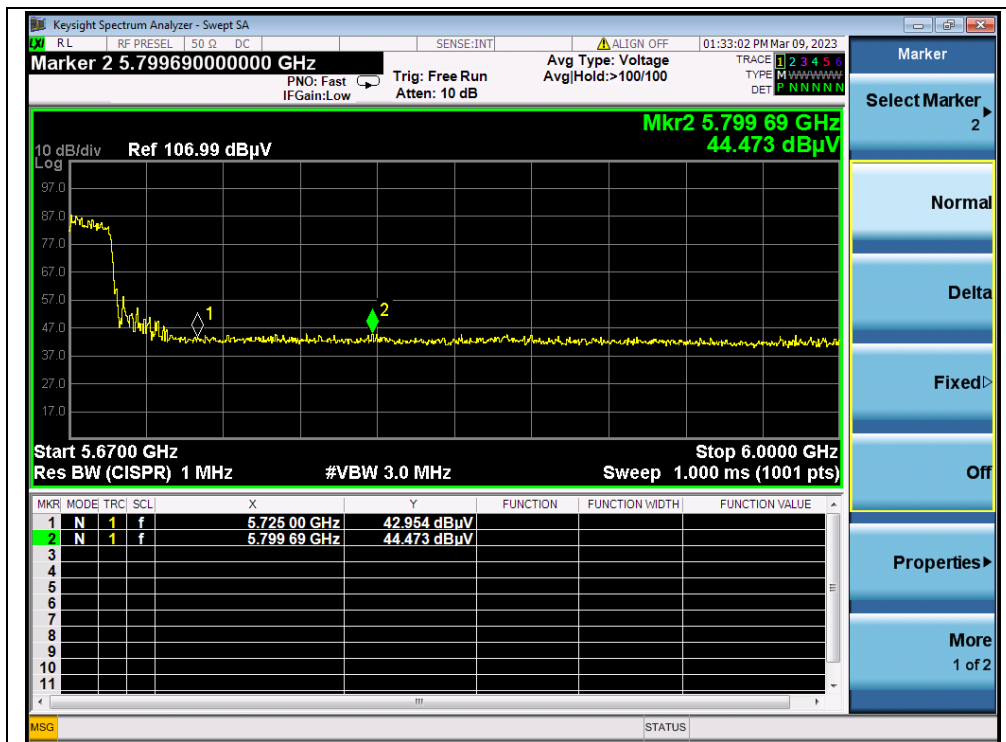
(AVERAGE, Channel 62, 802.11n (HT40))



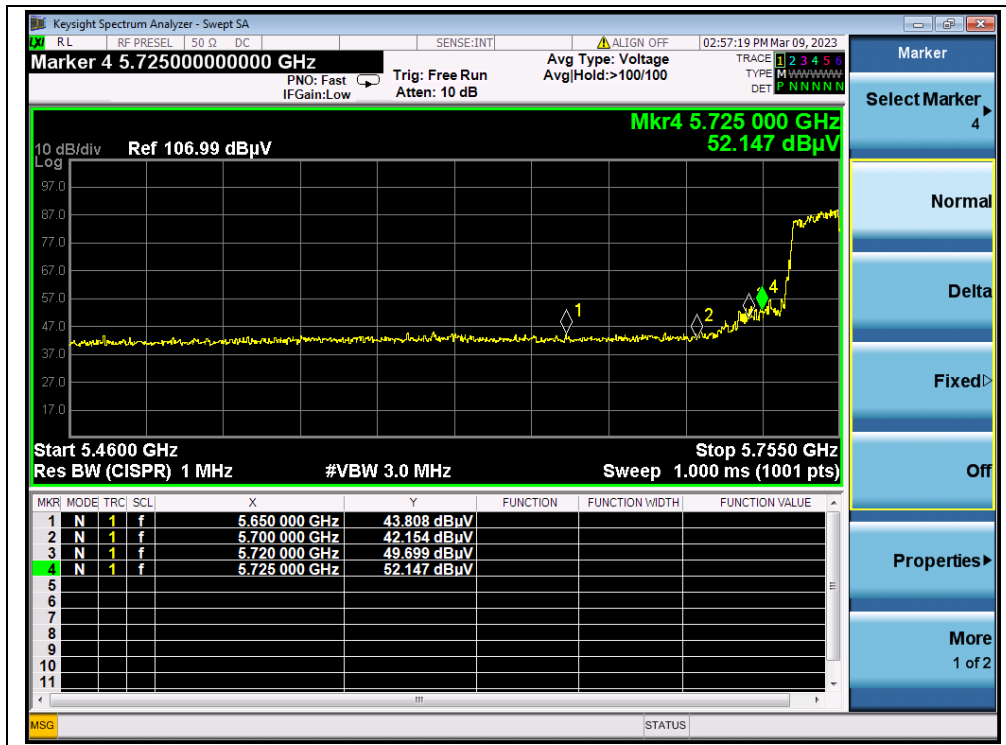
(PEAK, Channel 102, 802.11n (HT40))



(AVERAGE, Channel 102, 802.11n (HT40))



(PEAK, Channel 142, 802.11n (HT40))



(PEAK, Channel 151, 802.11n (HT40))



(PEAK, Channel 159, 802.11n (HT40))



A.9. Radiated Emission

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V/m]} = U_R + A_T + A_{\text{Factor}} \text{ [dB]}; A_T = L_{\text{Cable loss}} \text{ [dB]} - G_{\text{preamp}} \text{ [dB]}$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

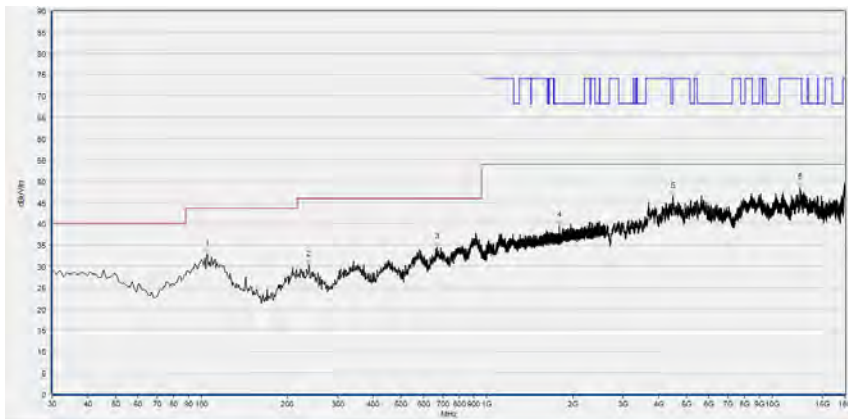
Note3: For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note 4: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.



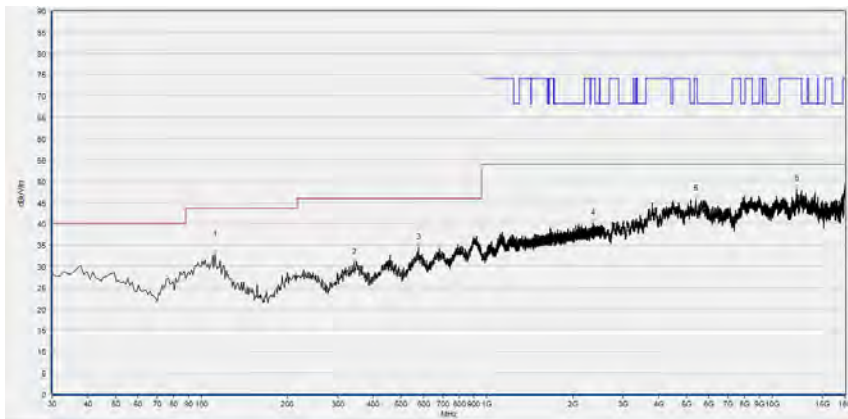
802.11a Mode

Plot for Channel 36



Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
104.765	32.79	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
237.788	30.26	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
668.899	34.61	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1793.331	39.63	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
4485.337	46.34	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12510.342	48.48	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

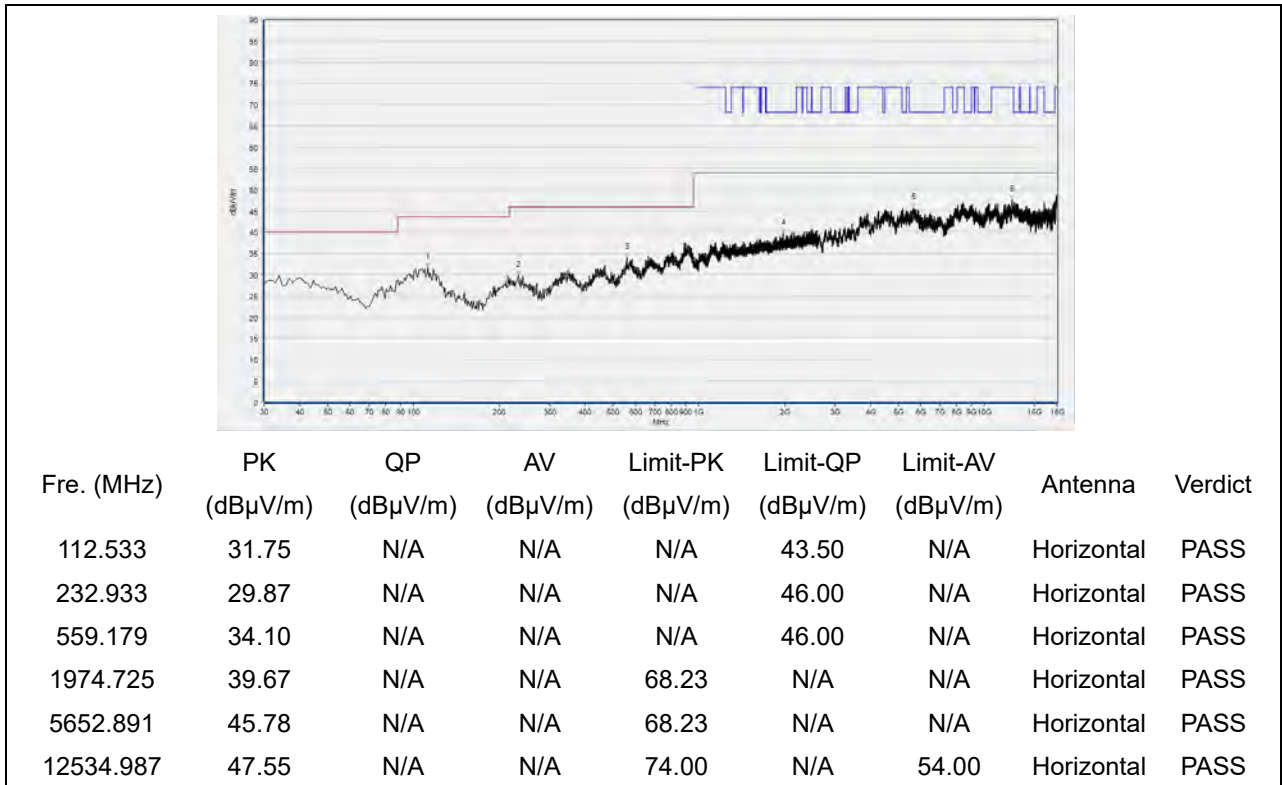
(Antenna Horizontal, 30MHz to 18GHz)



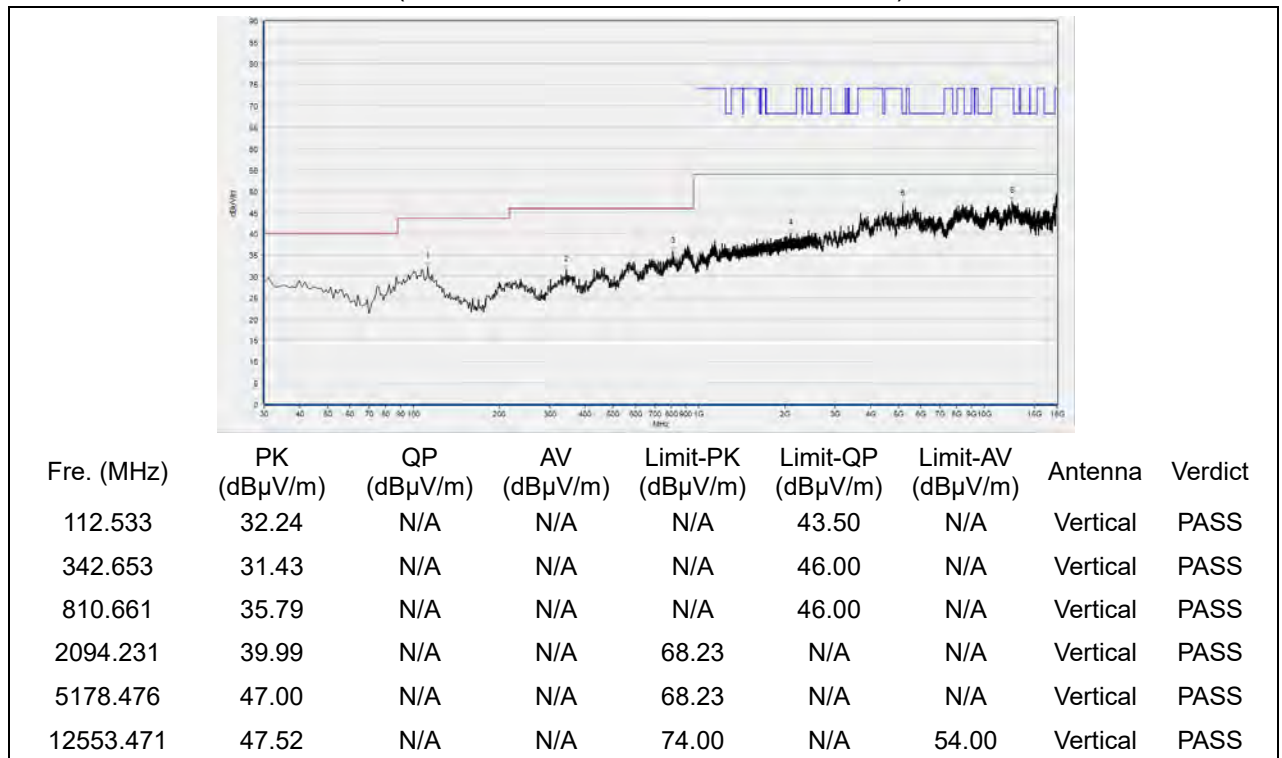
Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
111.562	32.68	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
342.653	30.78	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
575.686	34.30	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2348.183	40.05	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5394.119	45.70	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12137.588	48.17	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 44

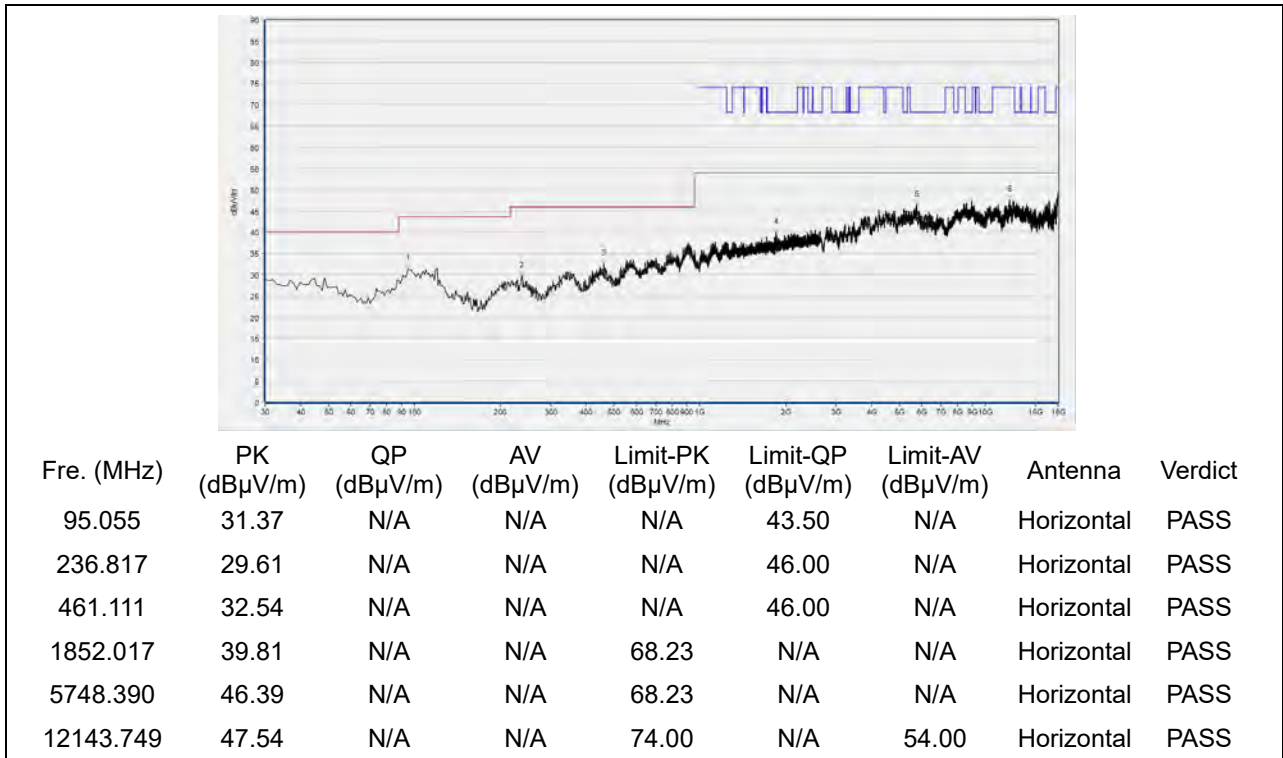


(Antenna Horizontal, 30MHz to 18GHz)

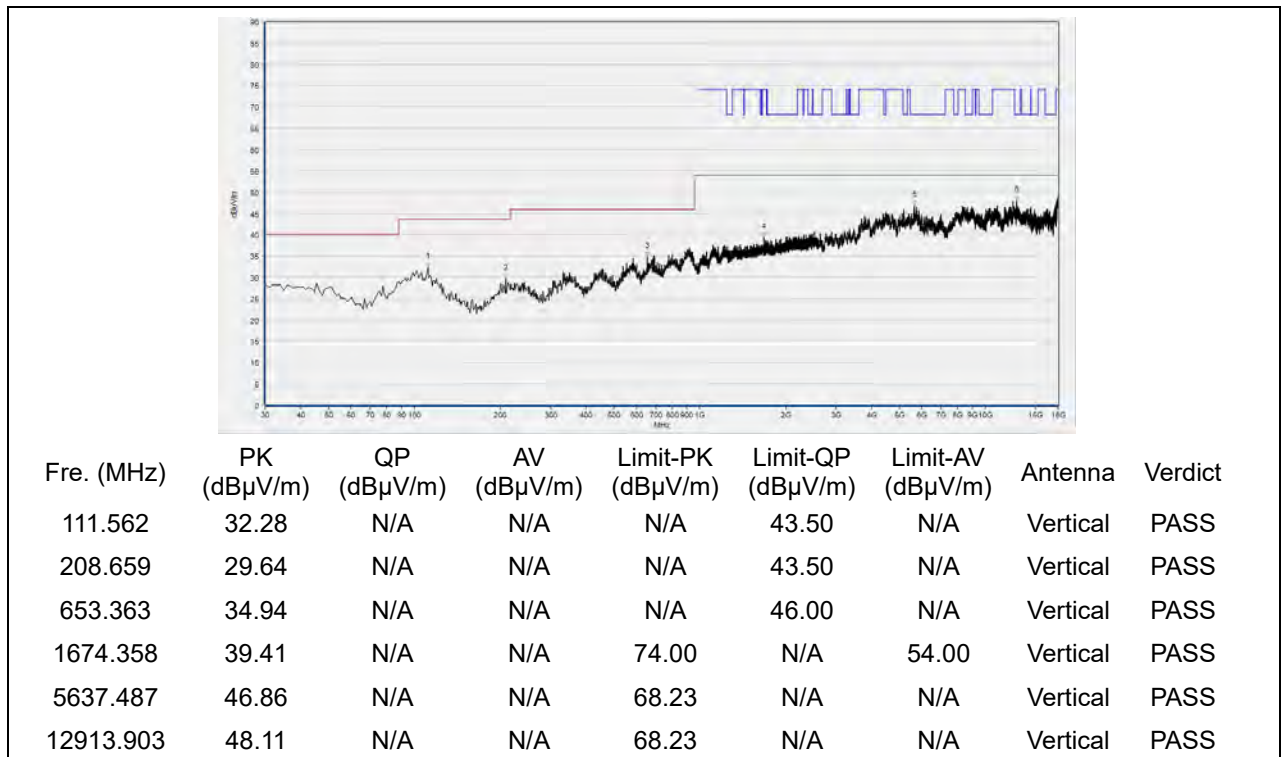


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 48

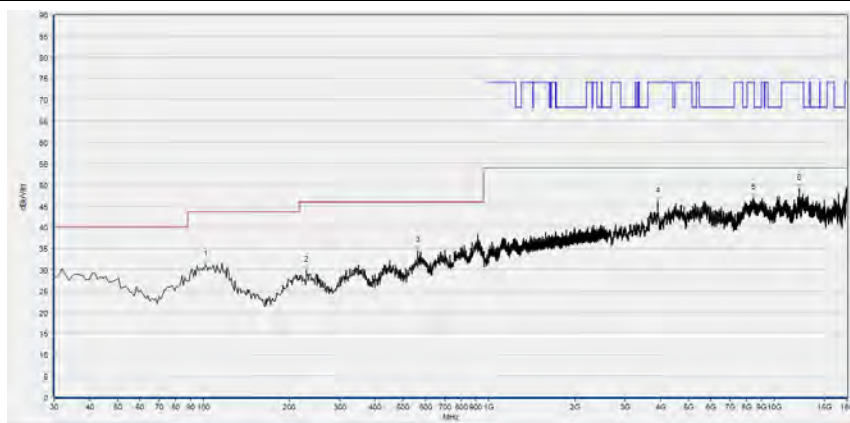


(Antenna Horizontal, 30MHz to 18GHz)



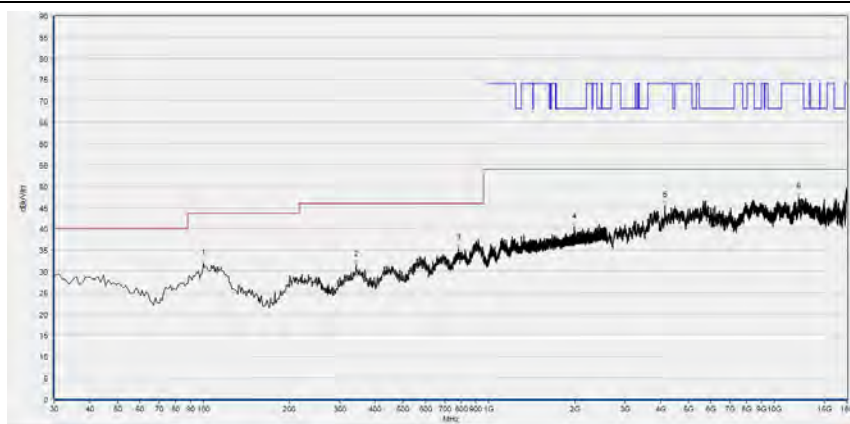
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 52



Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
101.852	31.17	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
230.020	29.78	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
563.063	34.59	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
3903.101	46.13	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
8443.929	46.93	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12202.280	49.16	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

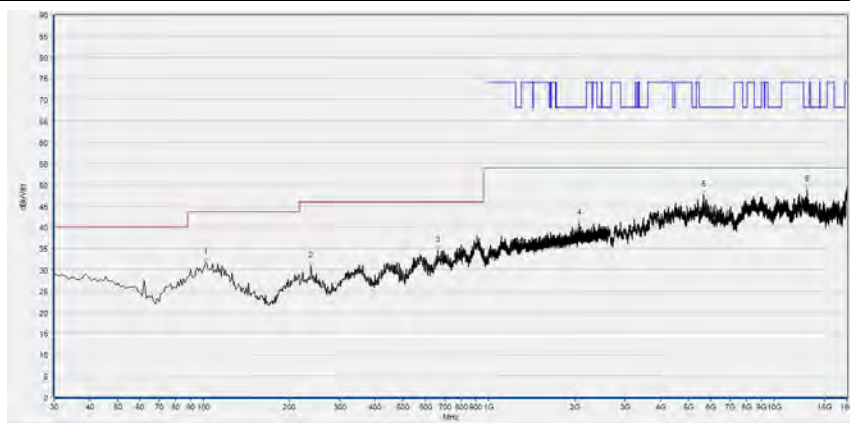
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
99.910	31.81	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
342.653	31.46	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
782.503	35.30	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1996.599	40.34	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
4143.389	45.38	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12162.232	47.36	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

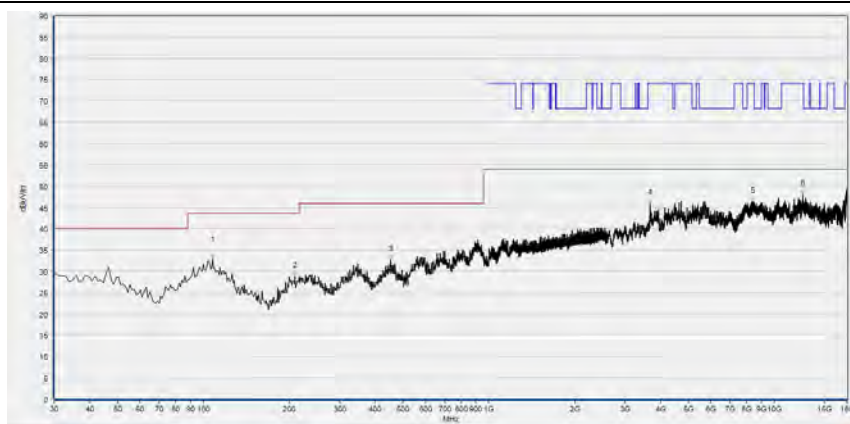
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 60



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
101.852	31.60	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
237.788	30.86	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
662.102	34.57	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2075.559	40.86	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5668.294	47.55	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
13071.014	48.73	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

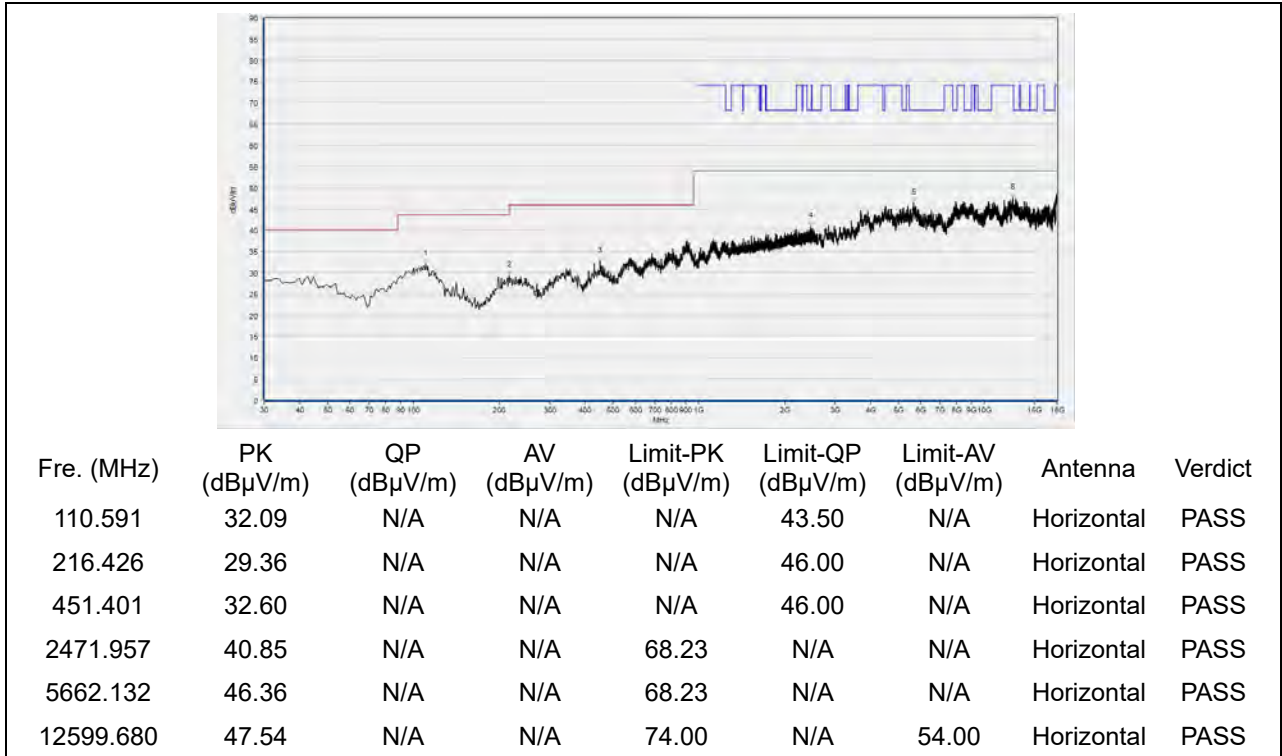
(Antenna Horizontal, 30MHz to 18GHz)



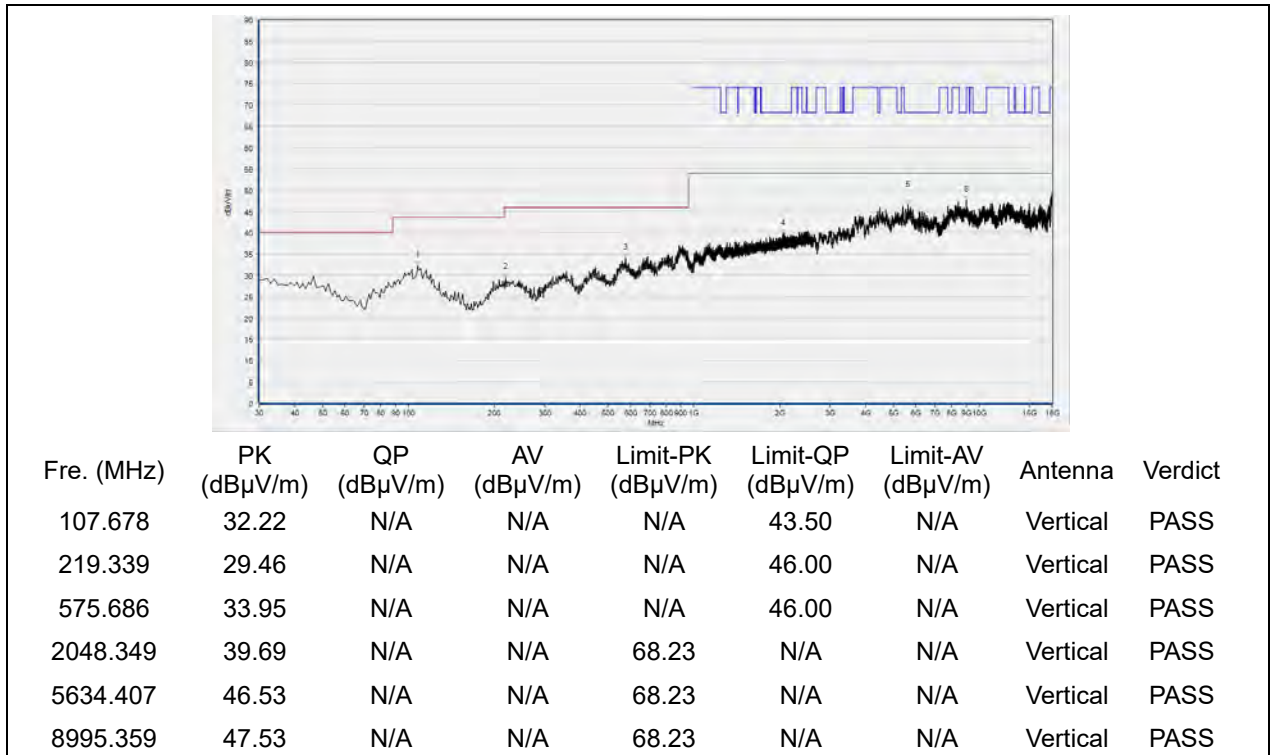
Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
107.678	32.87	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
209.630	28.90	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
453.343	32.75	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
3678.216	45.84	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
8416.203	46.44	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12581.196	48.05	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 64

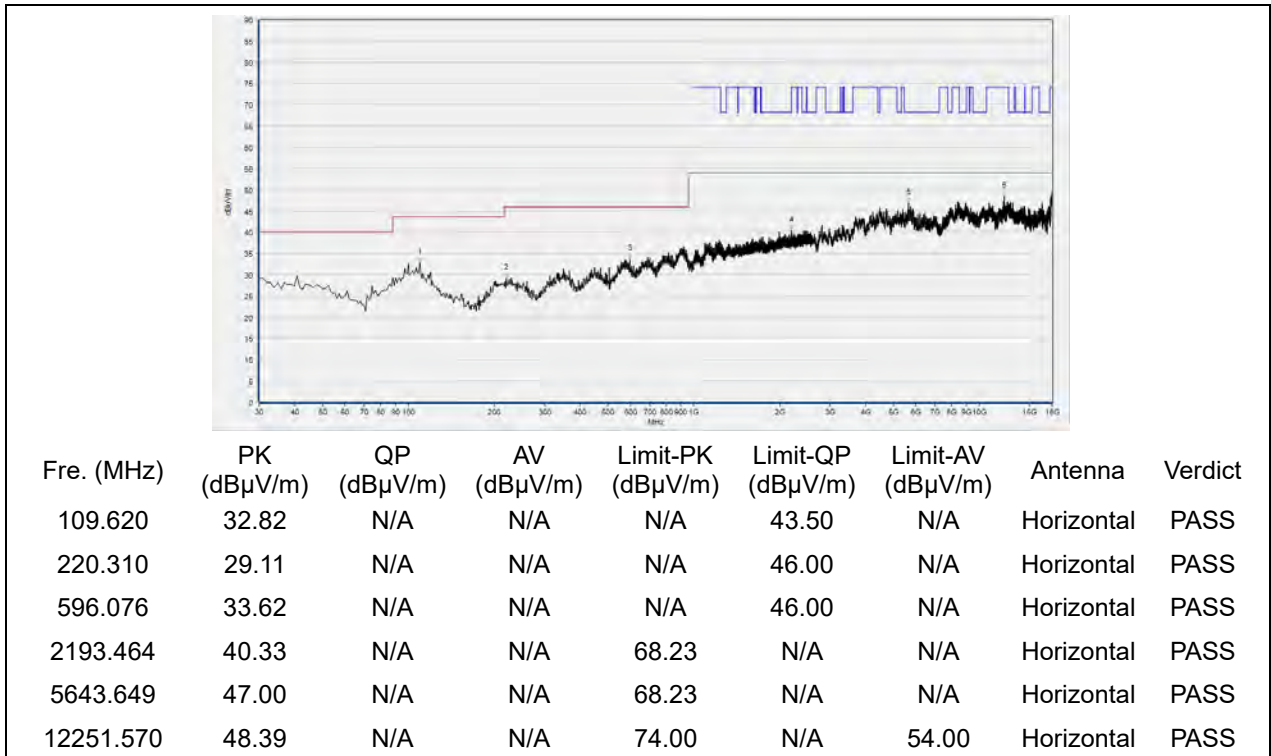


(Antenna Horizontal, 30MHz to 18GHz)

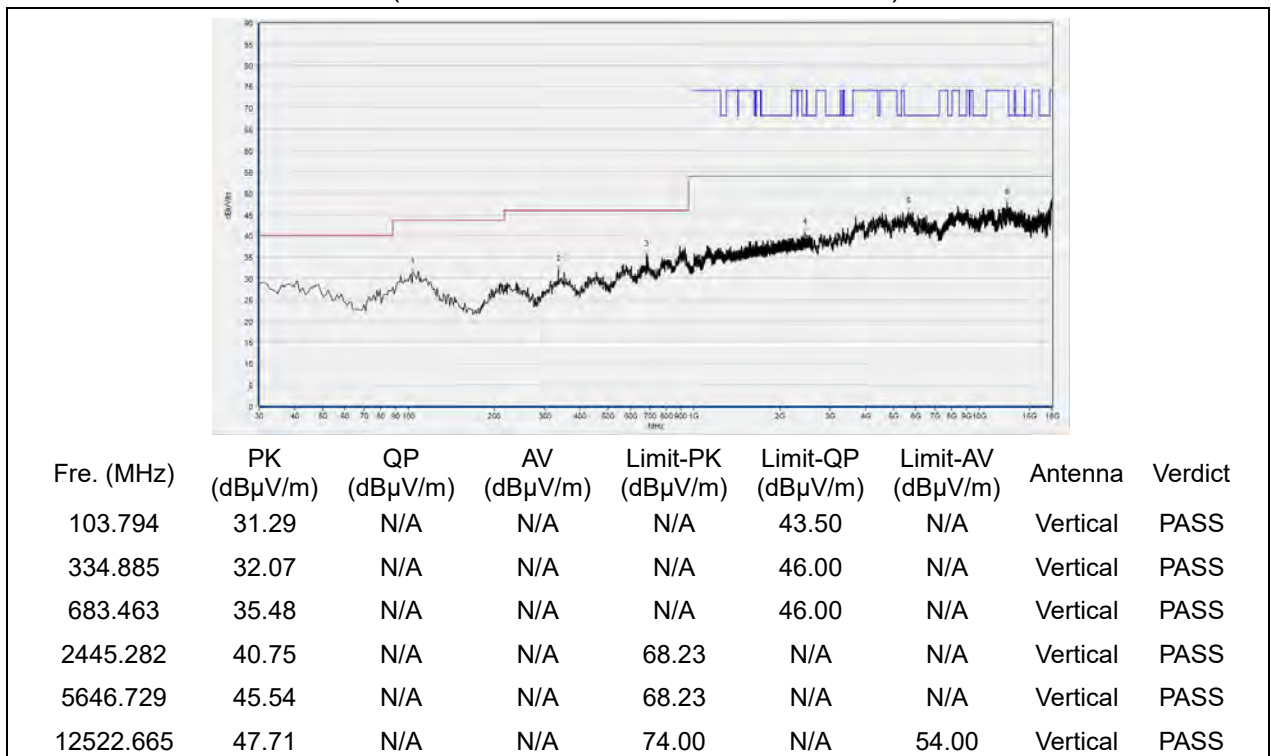


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 100

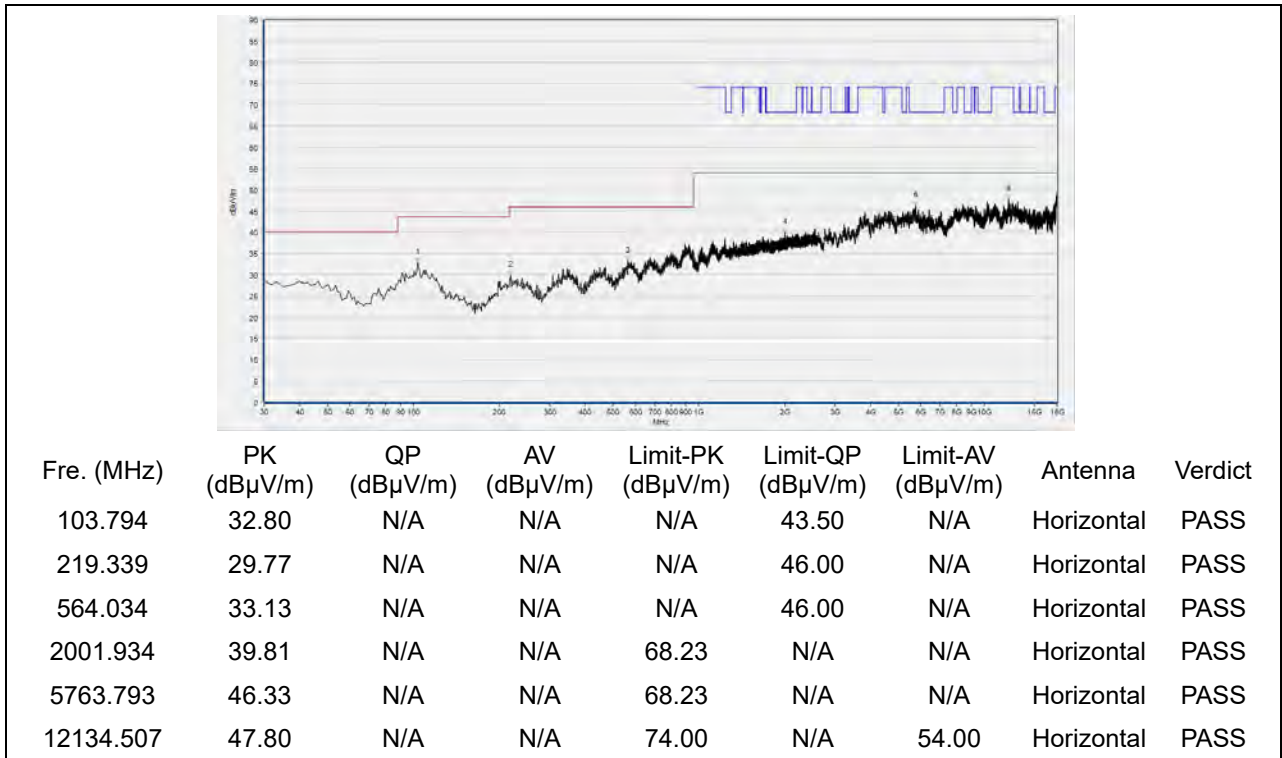


(Antenna Horizontal, 30MHz to 18GHz)

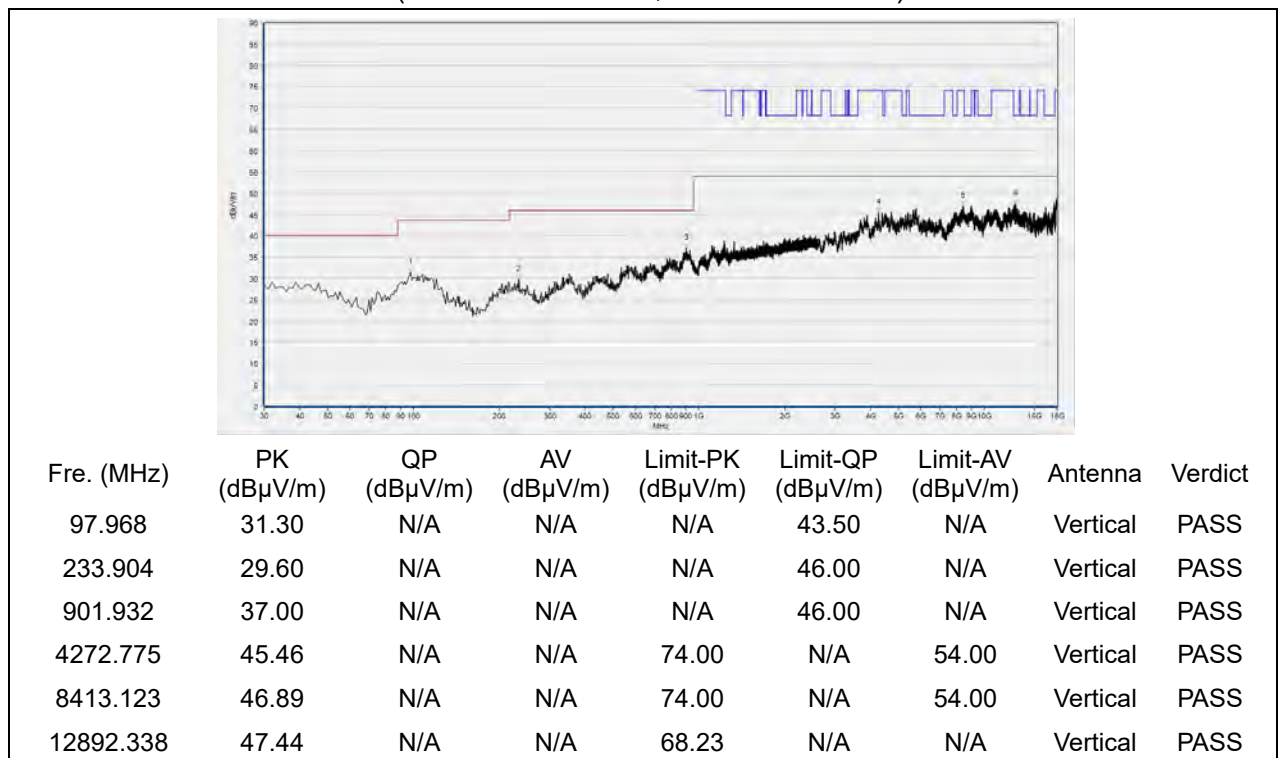


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 120

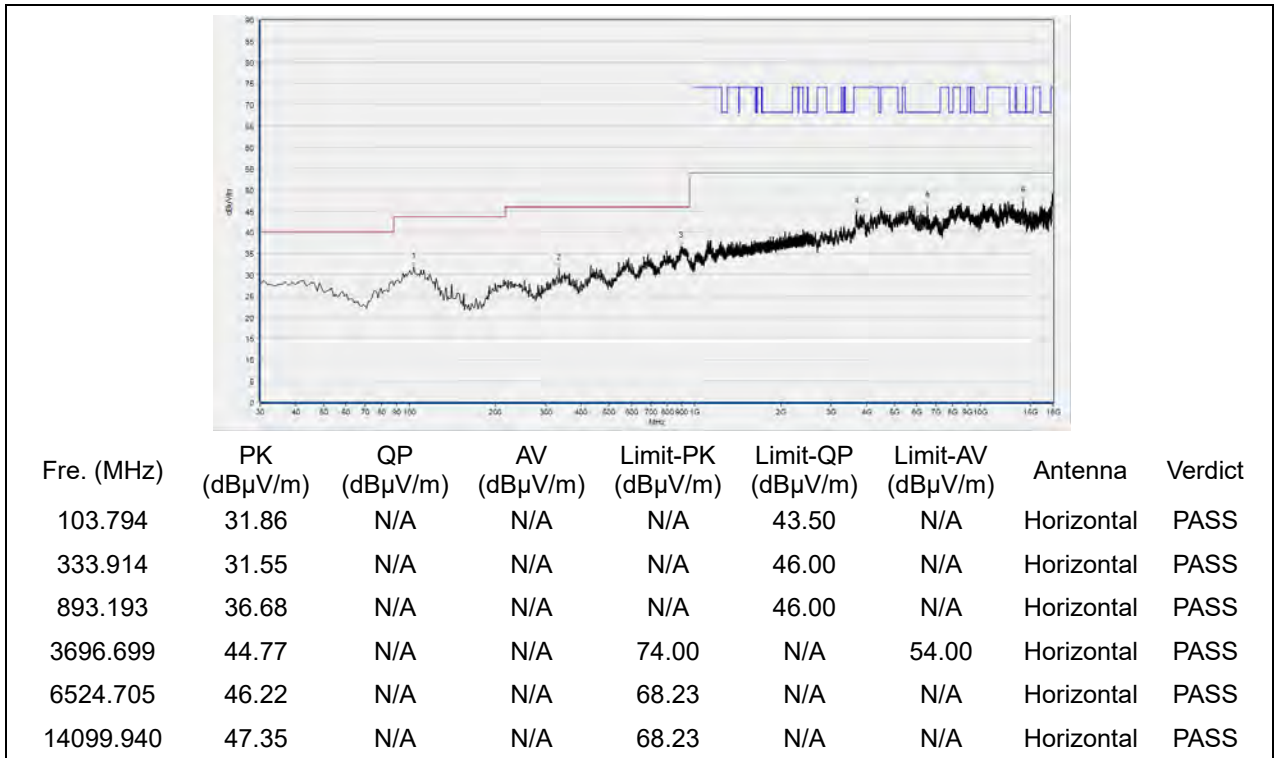


(Antenna Horizontal, 30MHz to 18GHz)

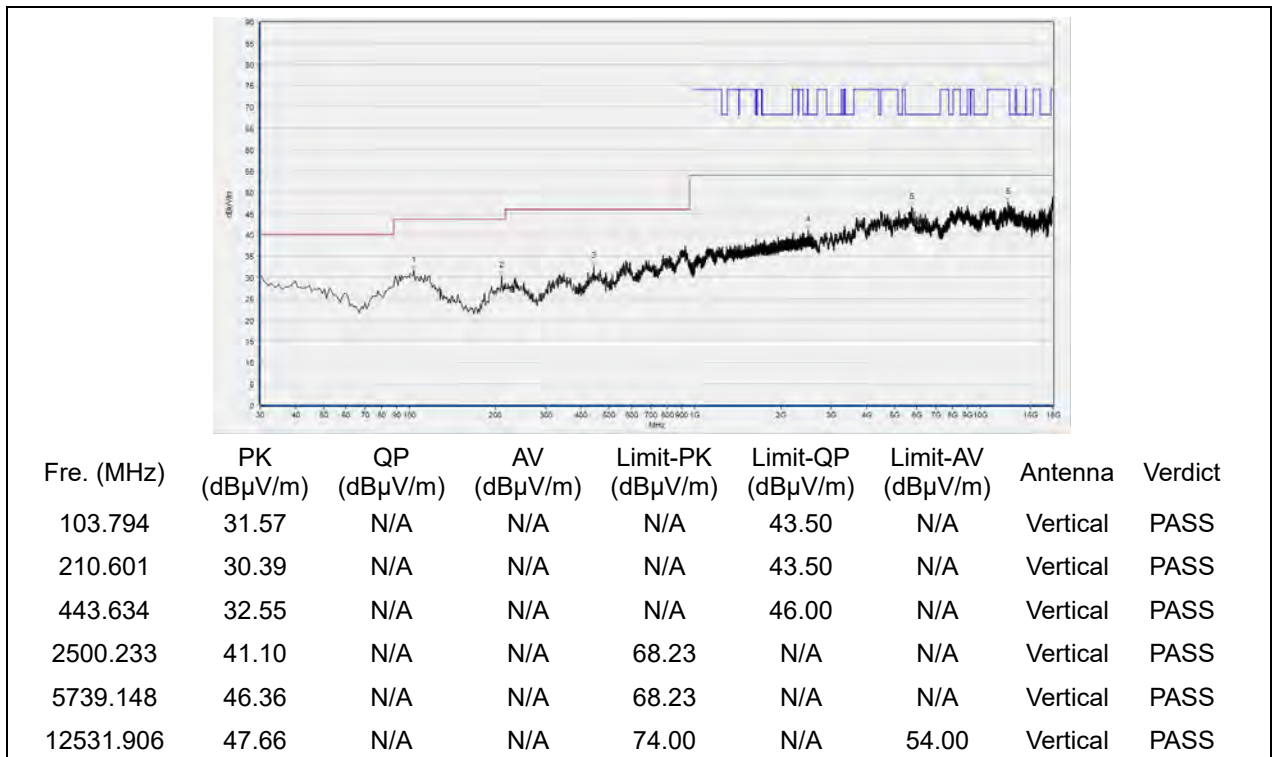


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 144

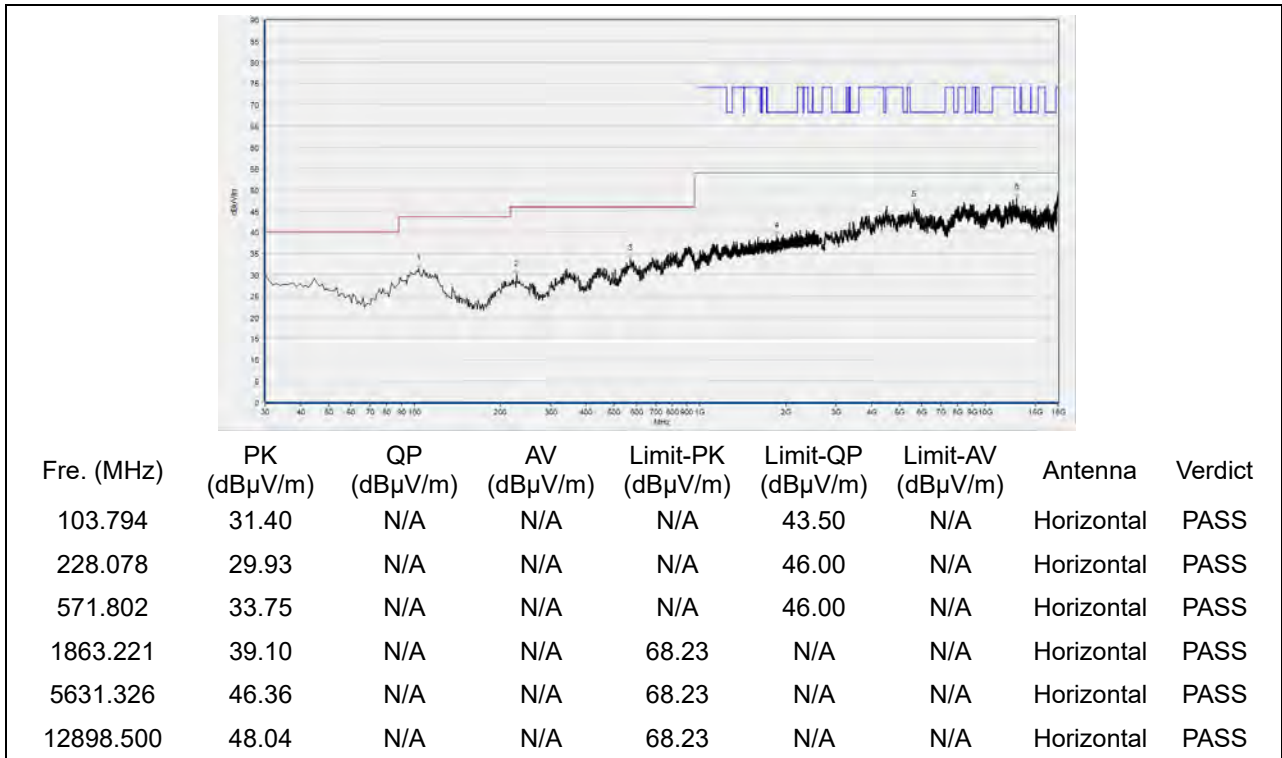


(Antenna Horizontal, 30MHz to 18GHz)

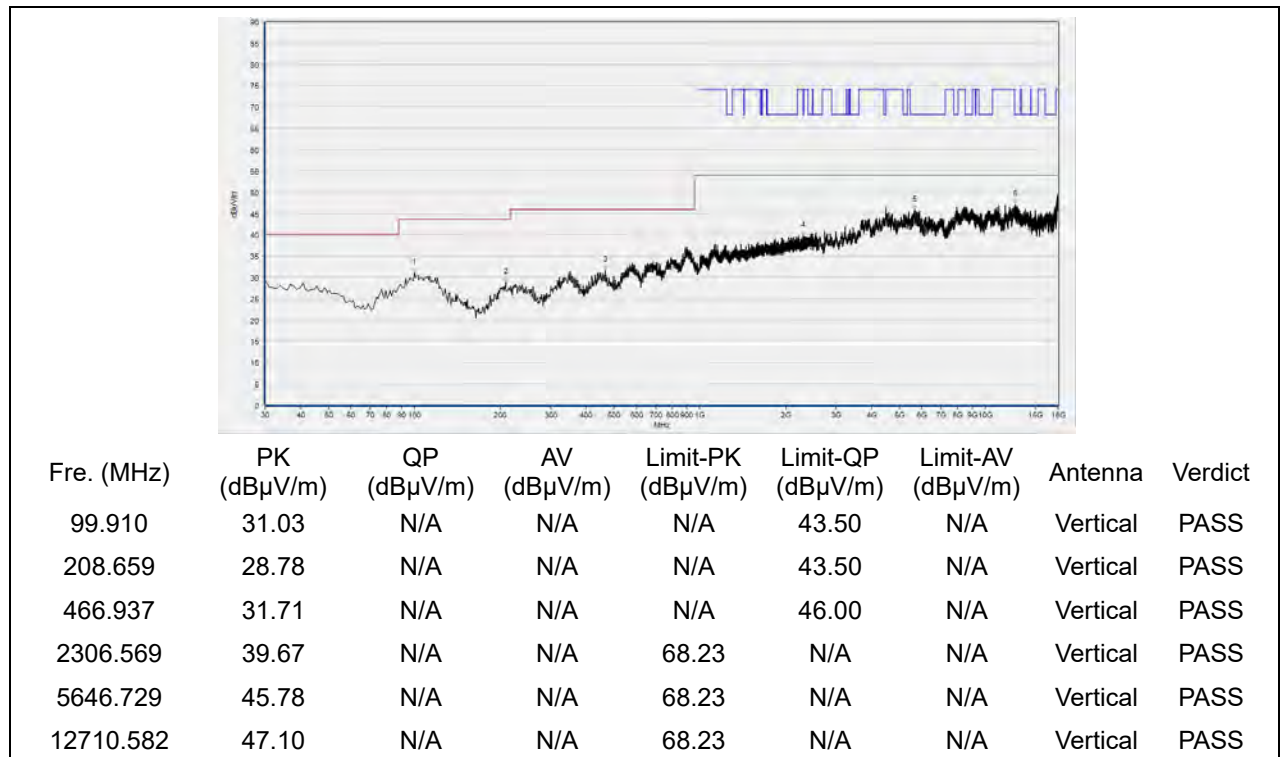


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 149

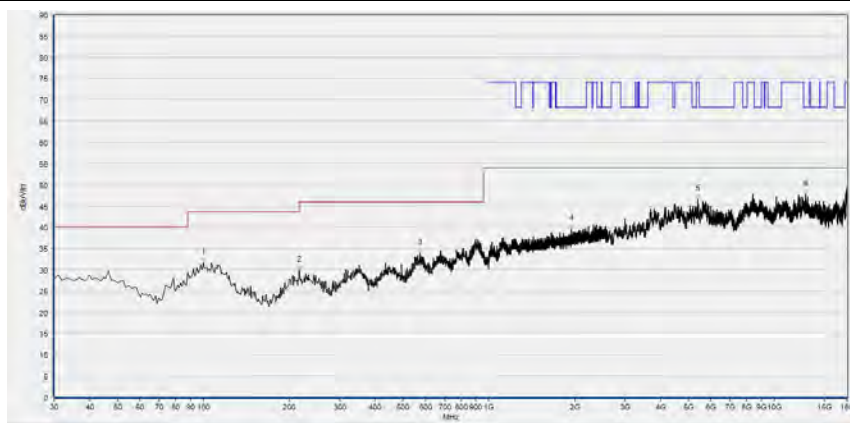


(Antenna Horizontal, 30MHz to 18GHz)



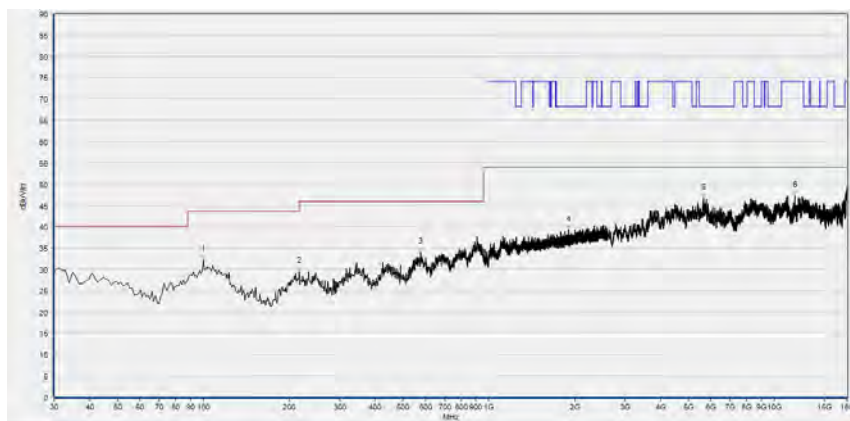
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 157



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
99.910	31.62	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
216.426	29.83	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
574.715	33.78	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1945.915	39.48	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5397.199	46.56	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12901.580	47.69	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

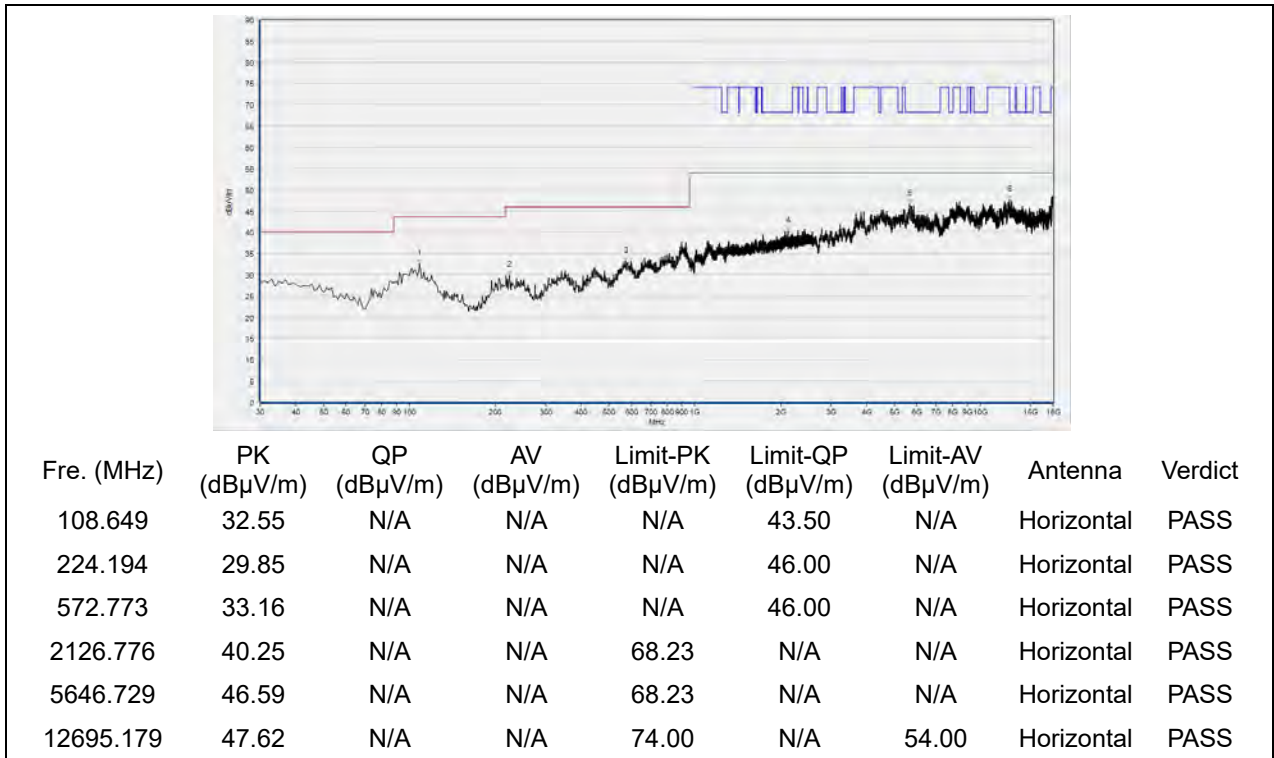
(Antenna Horizontal, 30MHz to 18GHz)



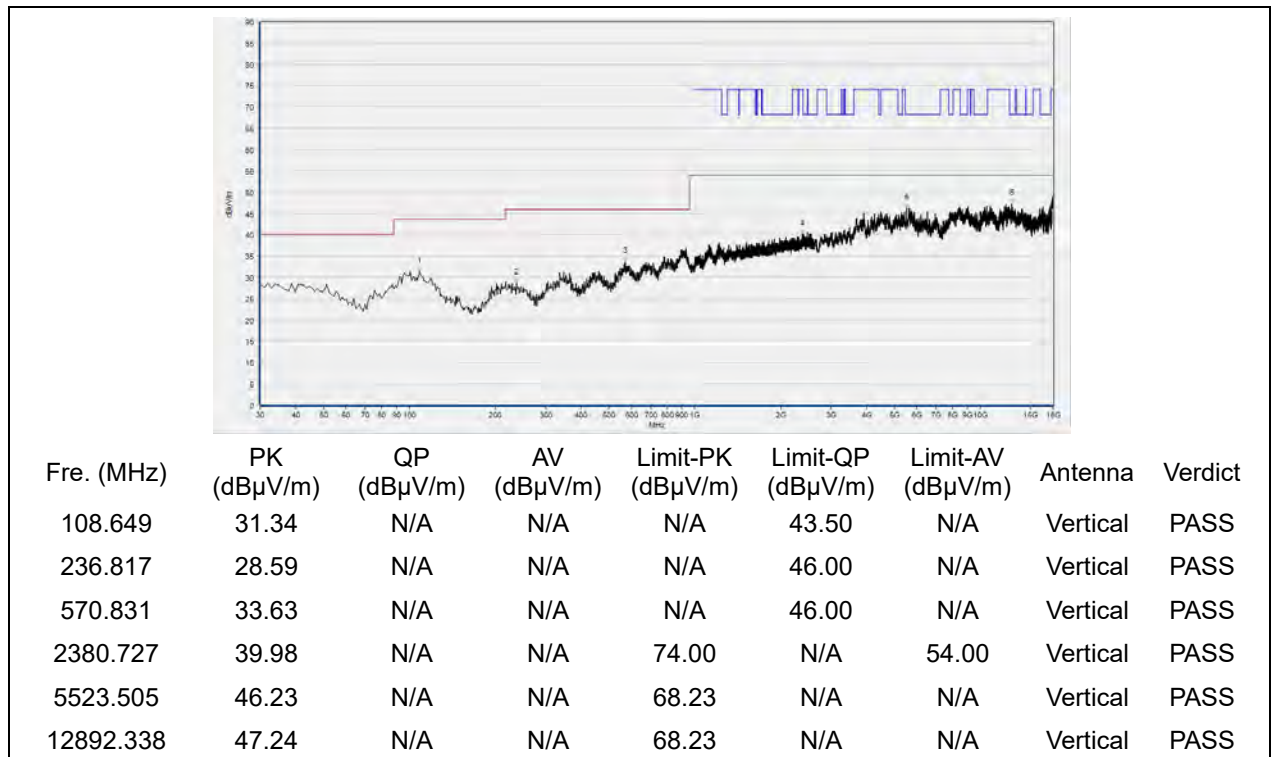
Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
99.910	32.20	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
216.426	29.54	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
577.628	34.08	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1904.835	39.25	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5643.649	46.72	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
11832.607	47.23	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 165



(Antenna Horizontal, 30MHz to 18GHz)

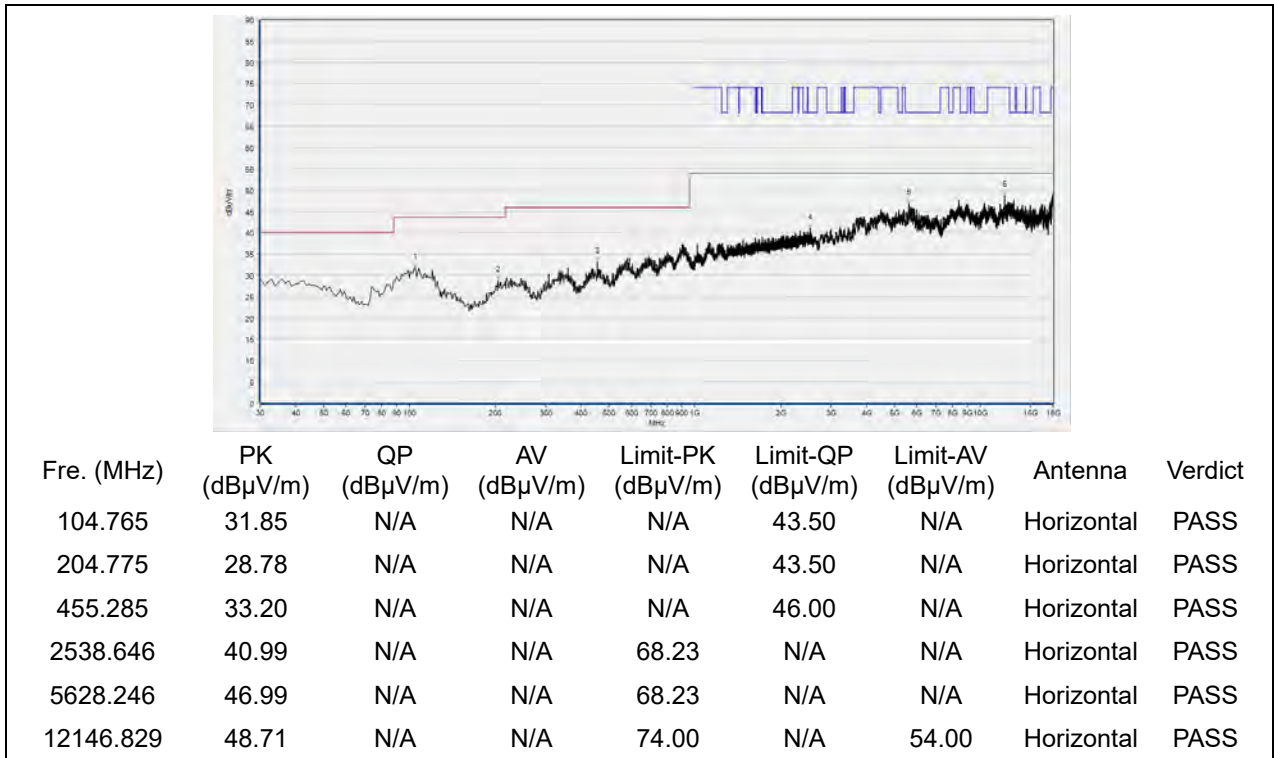


(Antenna Vertical, 30MHz to 18GHz)

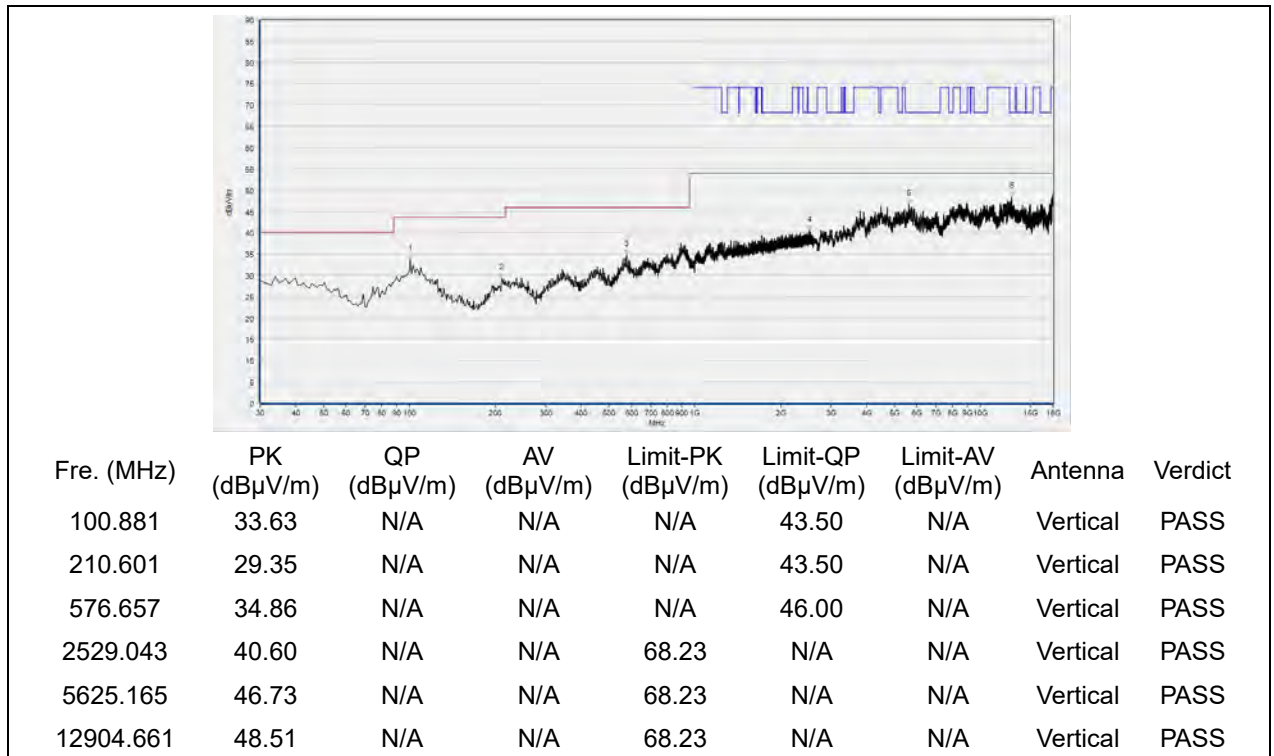


802.11n (HT40) mode

Plot for Channel 38

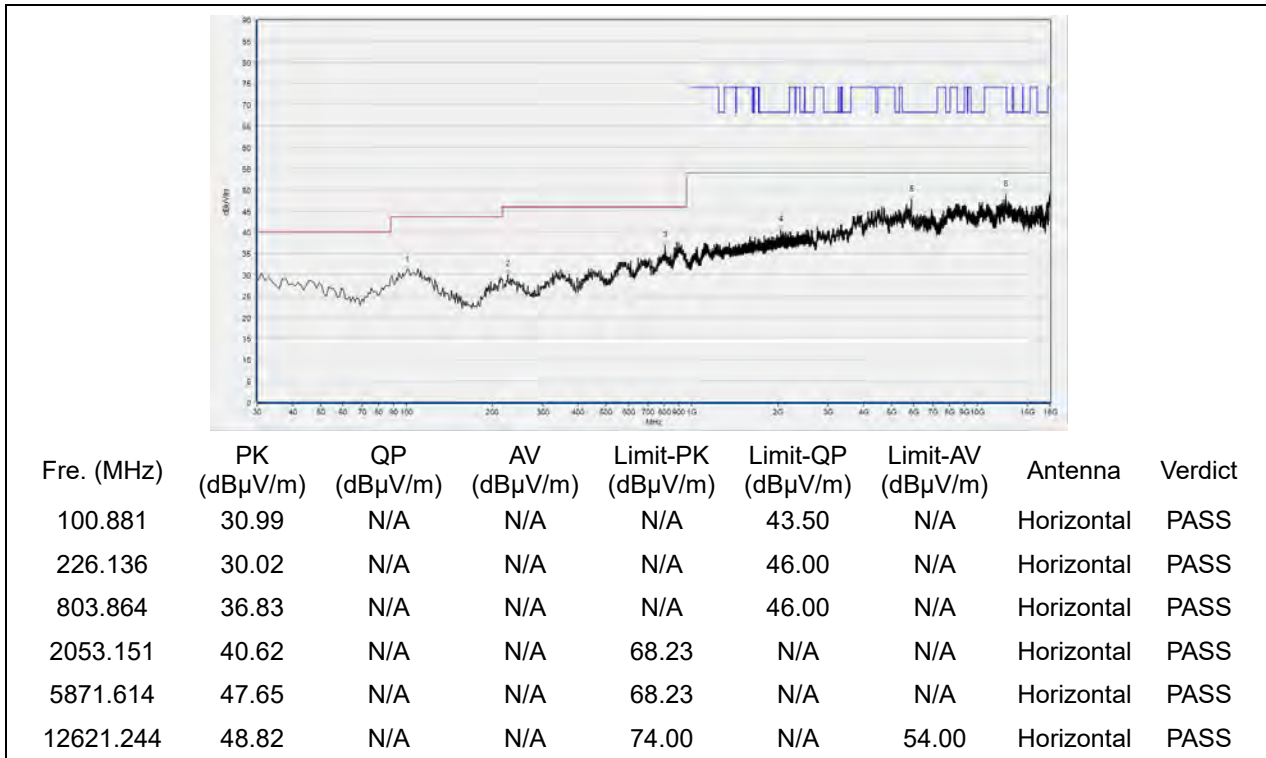


(Antenna Horizontal, 30MHz to 18GHz)

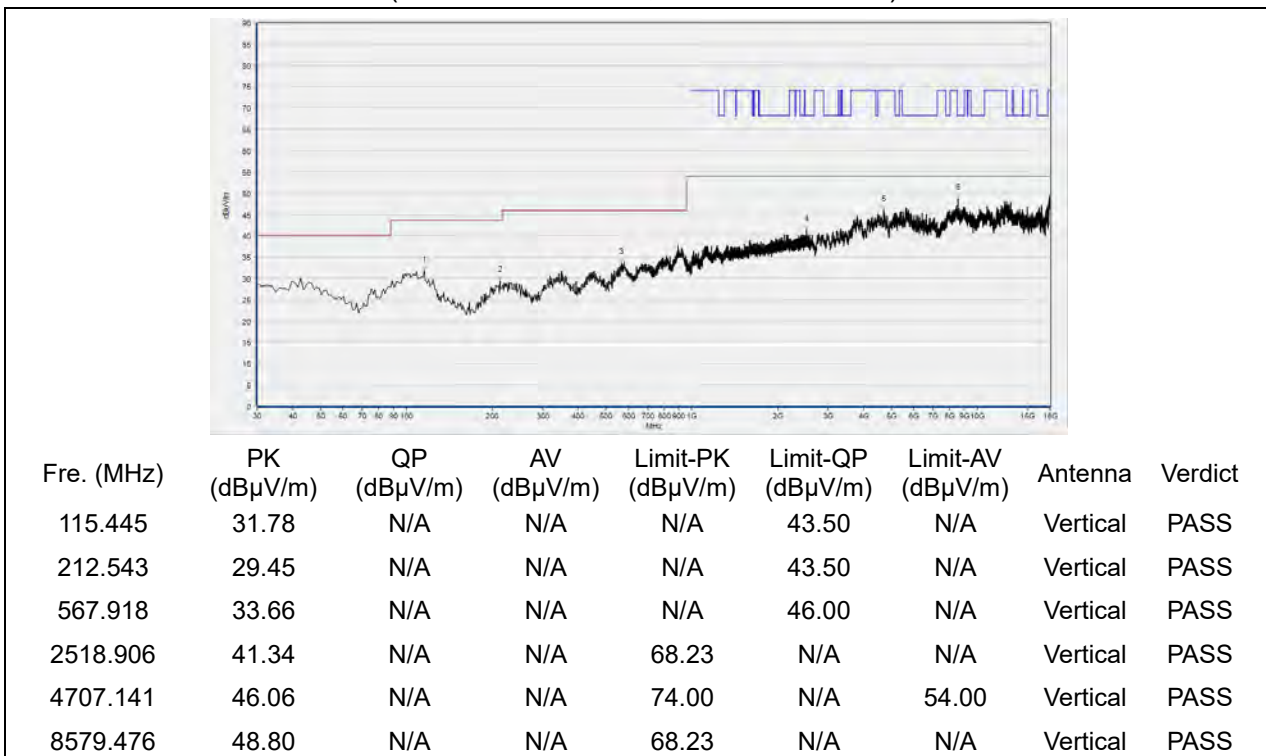


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 46

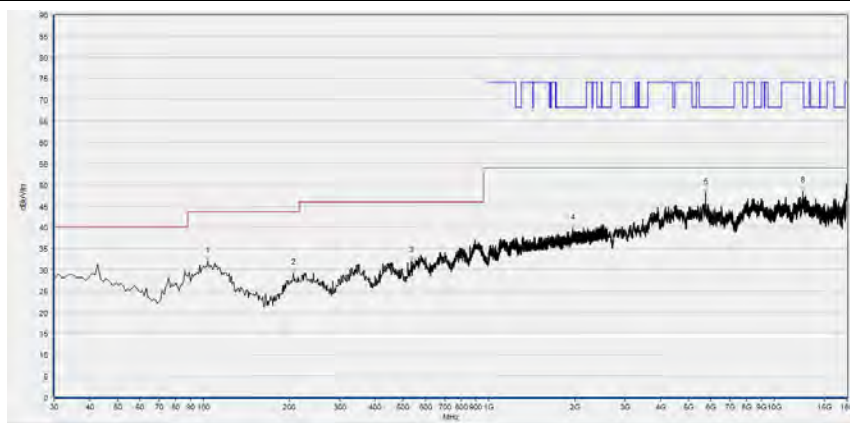


(Antenna Horizontal, 30MHz to 18GHz)



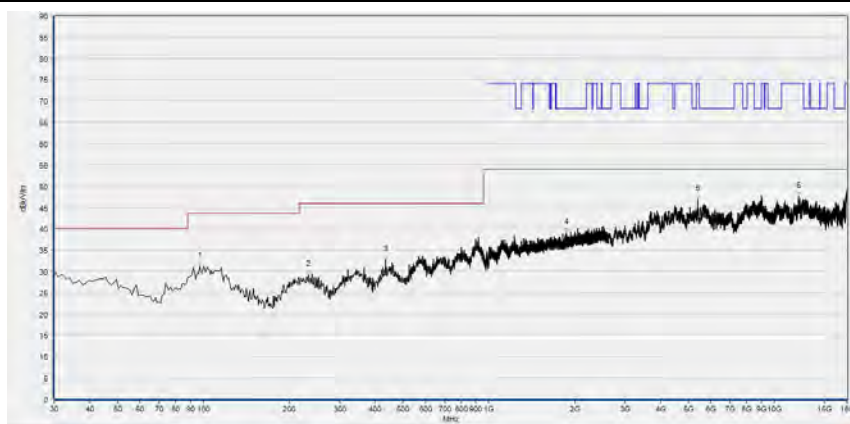
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 54



Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
103.794	31.95	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
206.717	29.13	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
533.934	31.99	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1969.923	39.64	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5763.793	48.07	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12602.761	48.36	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

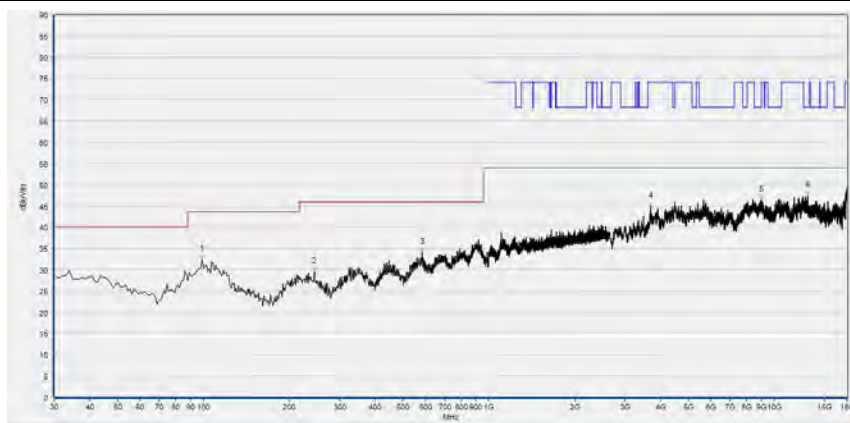
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBµV/m)	QP (dBµV/m)	AV (dBµV/m)	Limit-PK (dBµV/m)	Limit-QP (dBµV/m)	Limit-AV (dBµV/m)	Antenna	Verdict
96.997	31.14	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
233.904	29.17	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
433.924	32.74	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1868.556	39.03	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5391.038	46.96	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12177.636	47.60	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

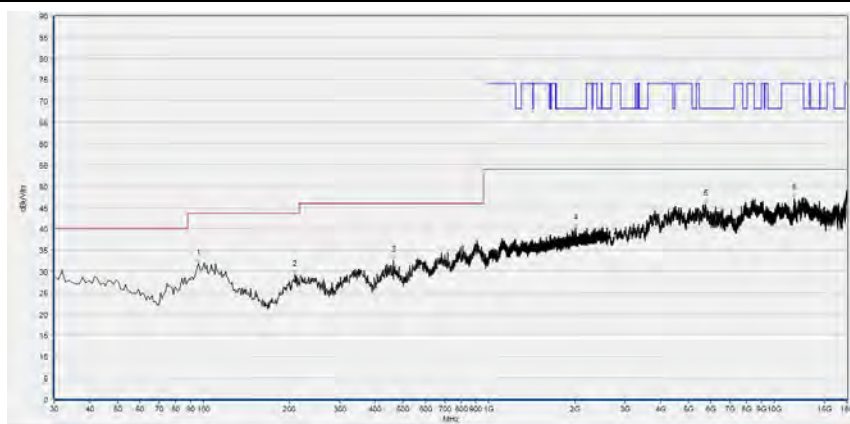
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 62



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
98.939	32.28	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
244.585	29.52	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
584.424	33.99	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
3681.296	44.85	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
9013.843	46.49	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
13089.498	47.48	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

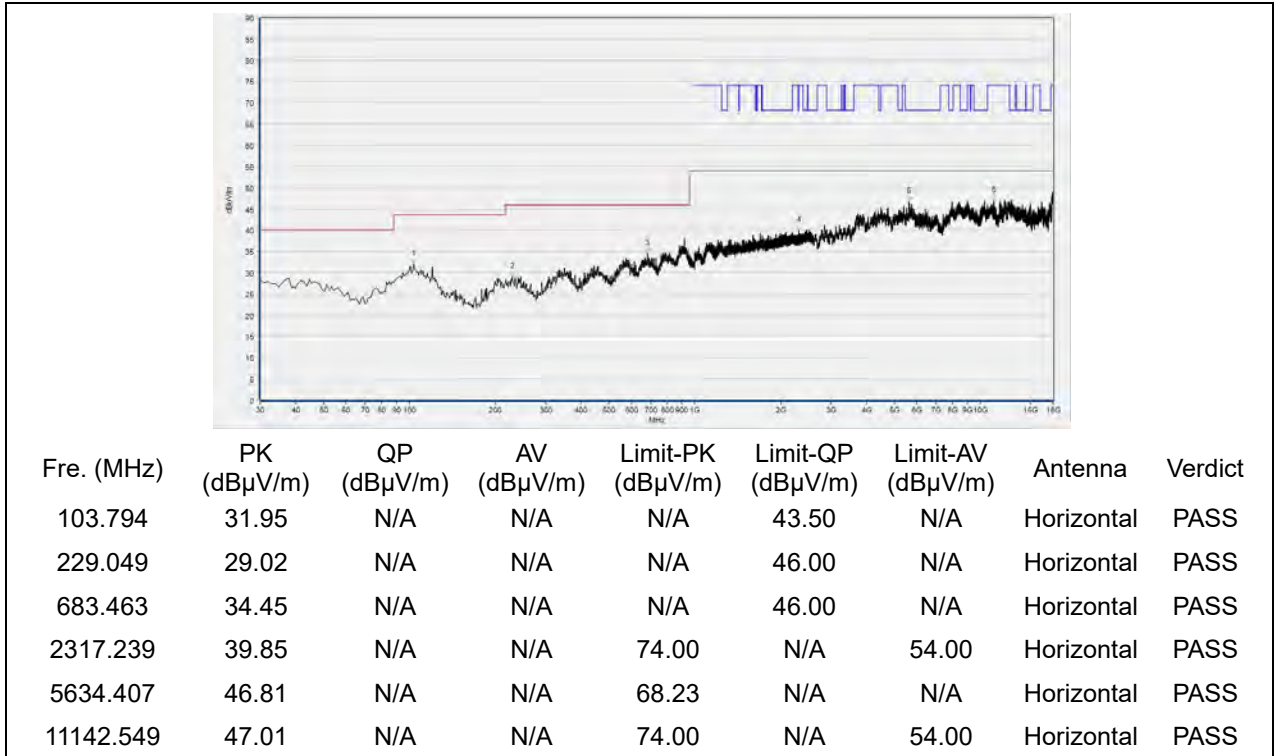
(Antenna Horizontal, 30MHz to 18GHz)



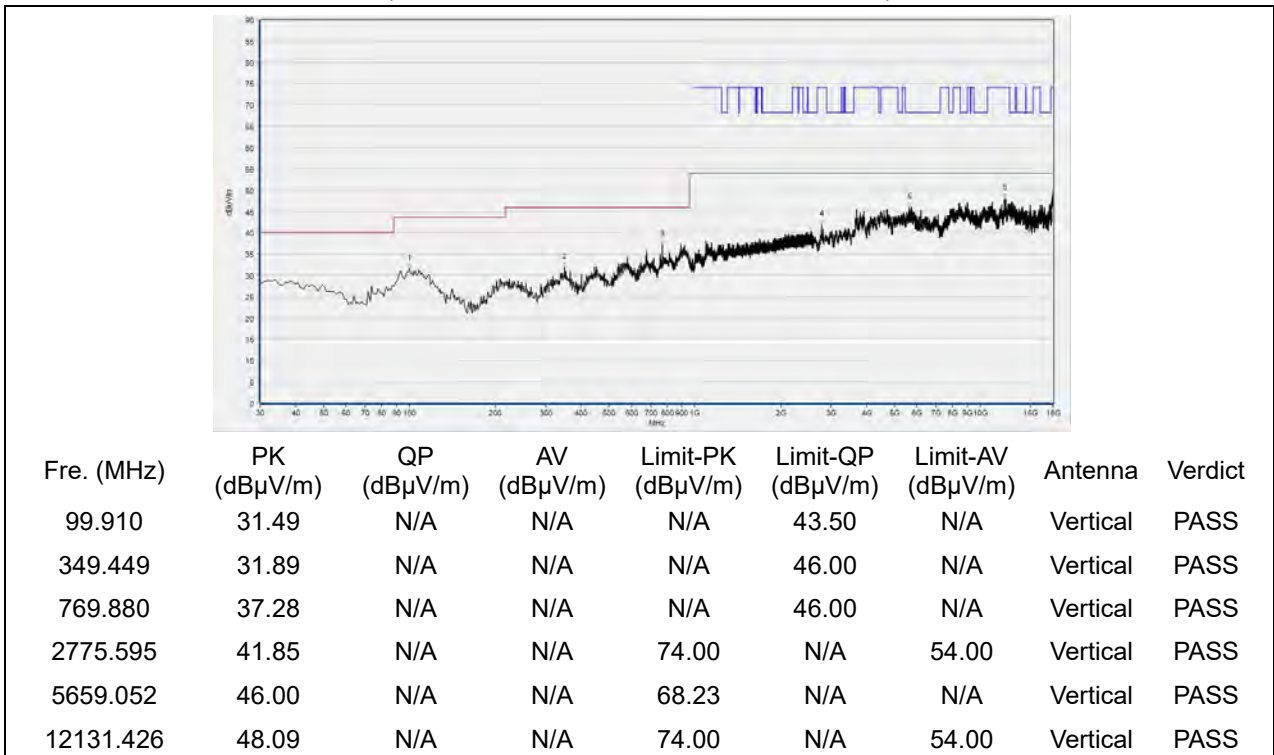
Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
96.026	31.78	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
209.630	29.13	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
462.082	32.58	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2013.671	40.02	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5754.551	45.70	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
11737.107	47.06	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 102

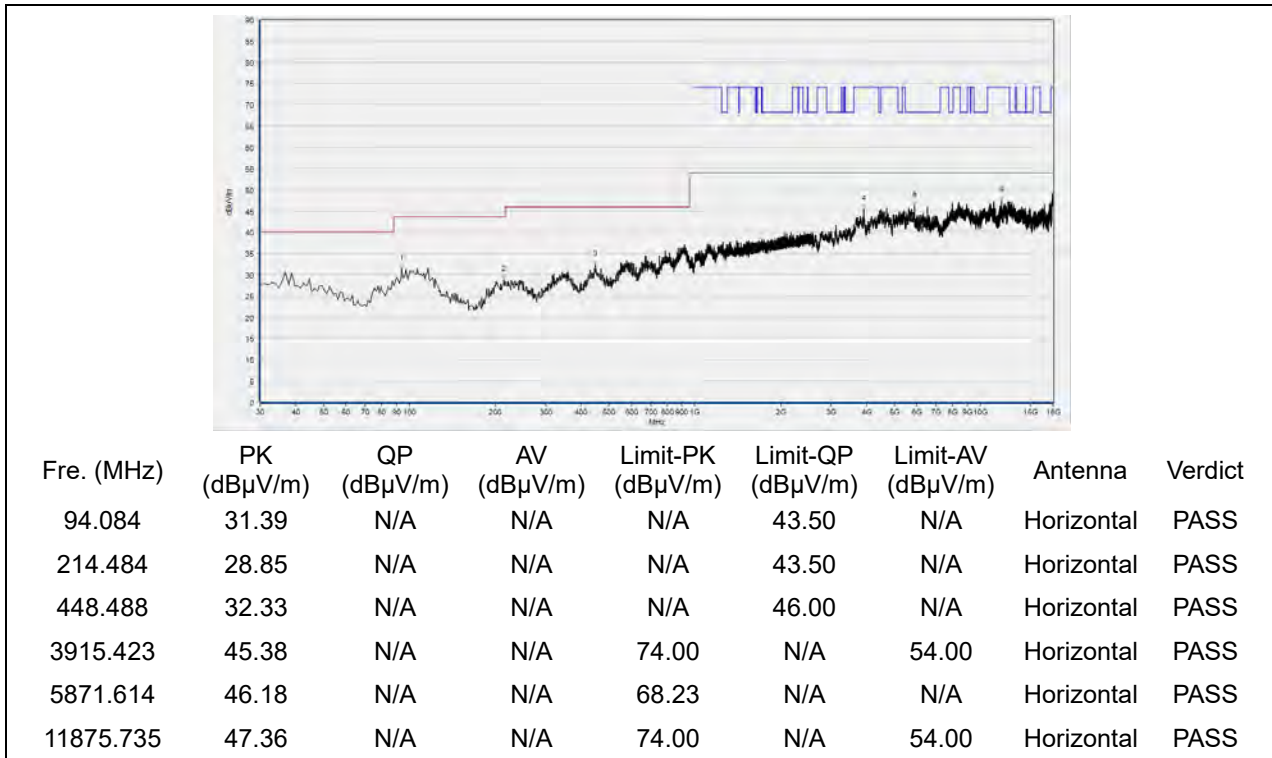


(Antenna Horizontal, 30MHz to 18GHz)

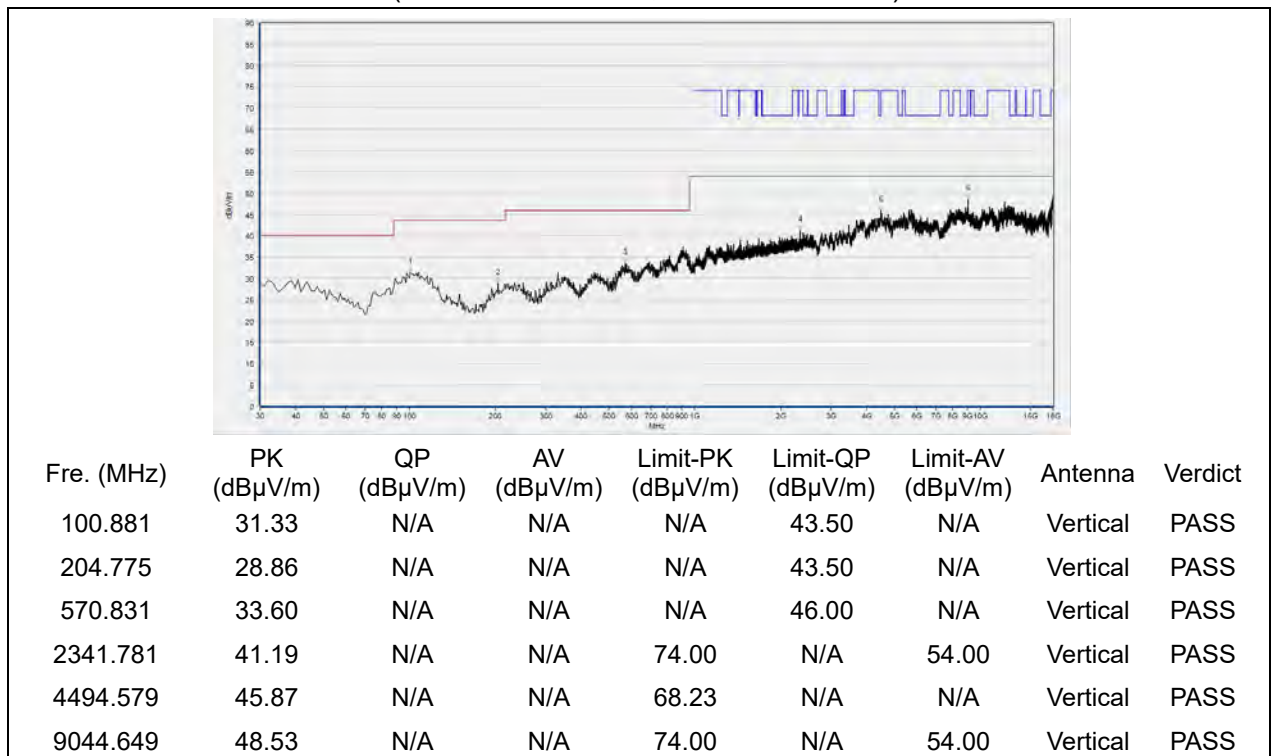


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 126

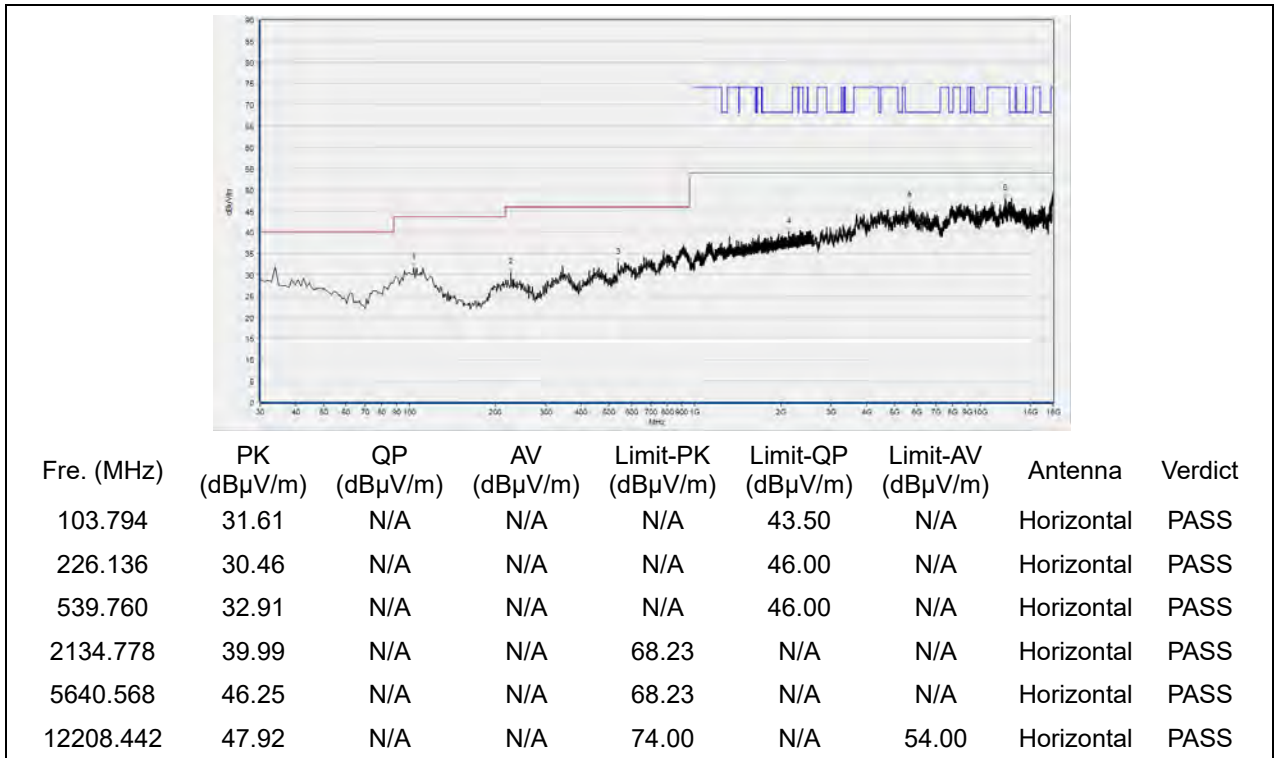


(Antenna Horizontal, 30MHz to 18GHz)

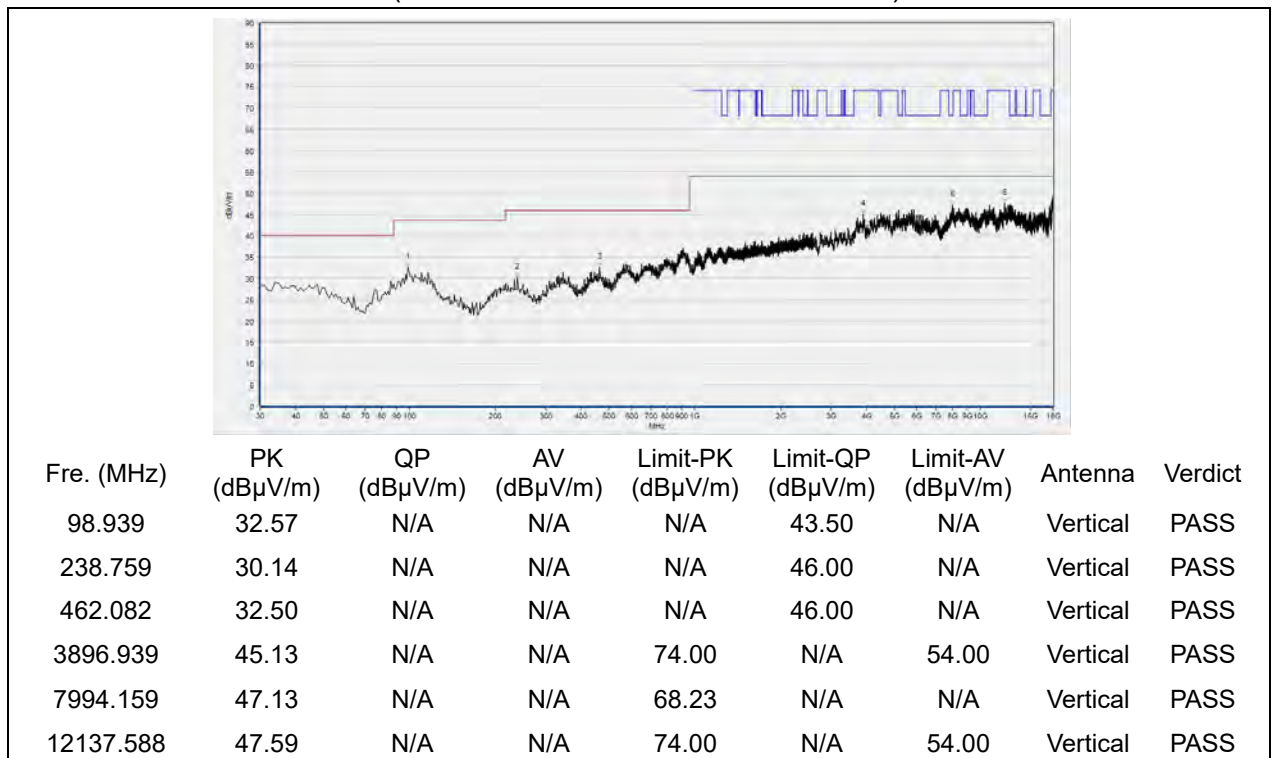


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 142

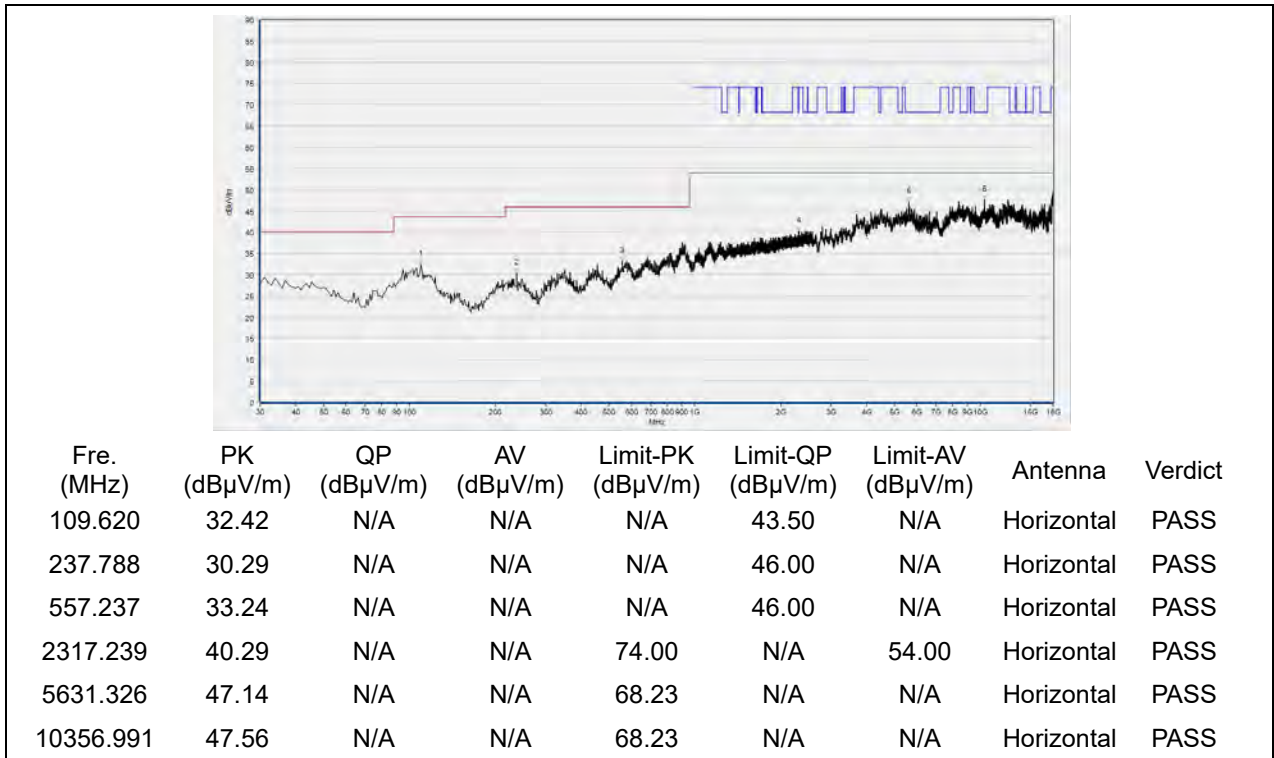


(Antenna Horizontal, 30MHz to 18GHz)

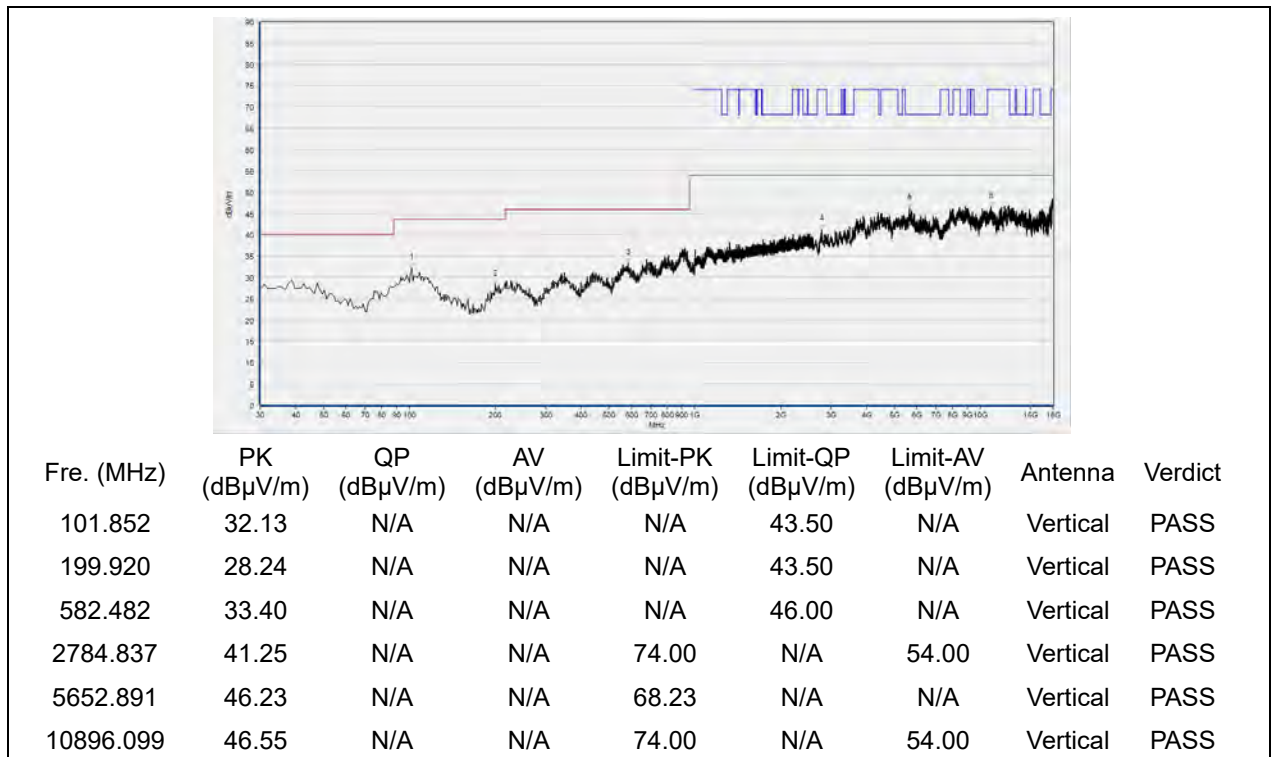


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 151

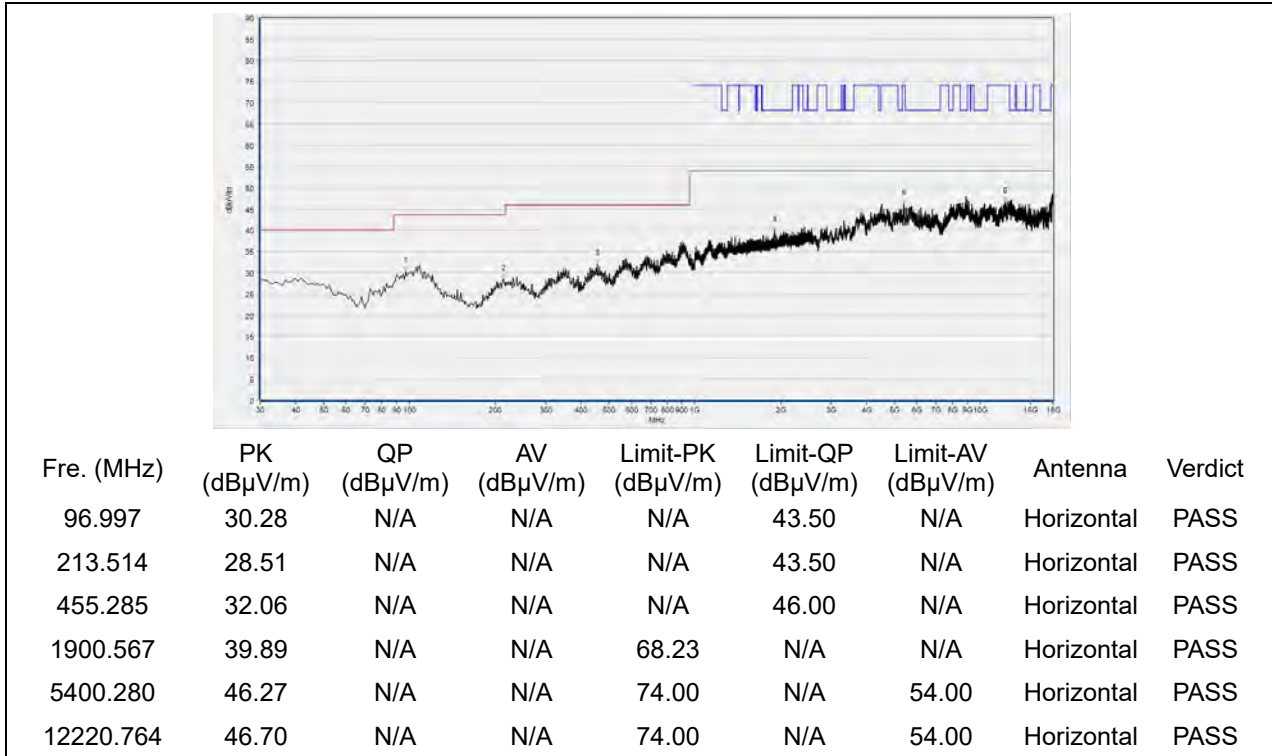


(Antenna Horizontal, 30MHz to 18GHz)

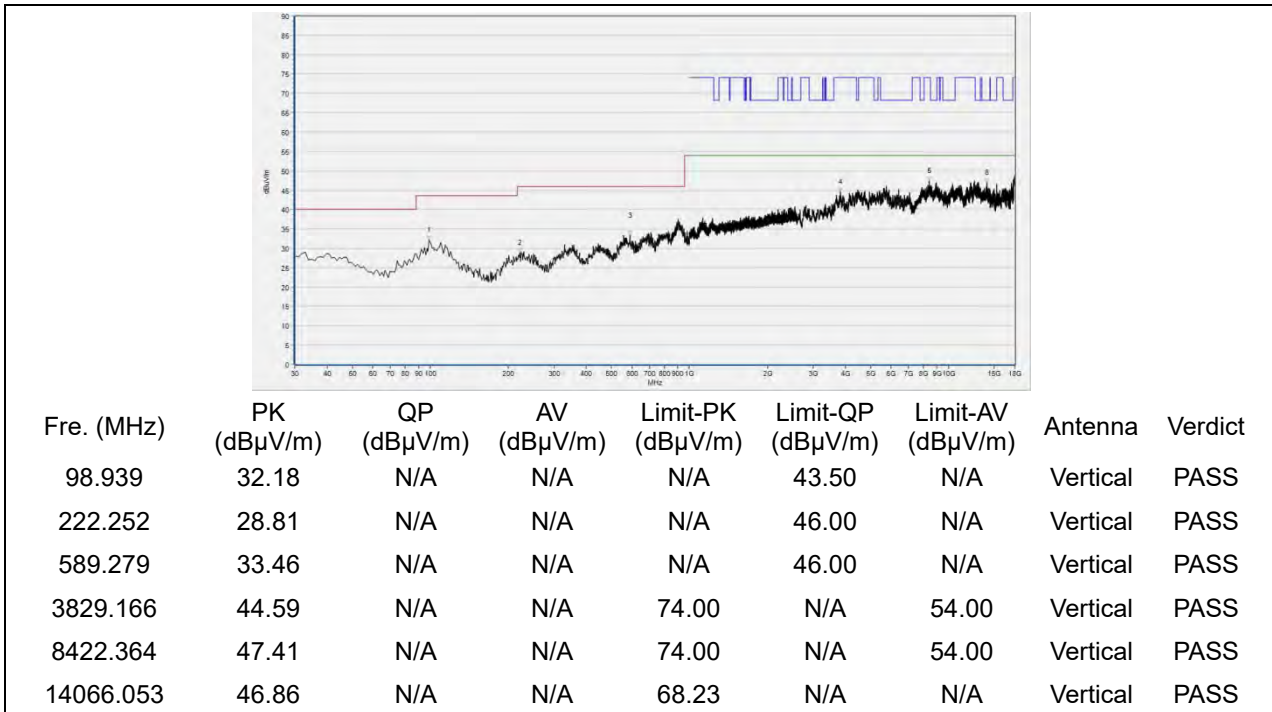


(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 159



(Antenna Horizontal, 30MHz to 18GHz)



(Antenna Vertical, 30MHz to 18GHz)

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