



Appendix E

RF Test Data for 5.8GWIFI(Conducted Measurement)

Product Name: AX3000 Dual Band XPON ONT

Trade Mark: N/A

Test Model: X302

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



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1 Duty Cycle

1.1 Test Result

Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5745	Ant0	86.88	0.61	4.76
a	5785	Ant0	87.02	0.6	4.76
a	5825	Ant0	87.01	0.6	4.55
a	5745	Ant1	87	0.6	4.76
a	5785	Ant1	87.06	0.6	4.76
a	5825	Ant1	87.06	0.6	4.76
n20	5745	Ant0	93.02	0.31	2.22
n20	5785	Ant0	93.04	0.31	2.22
n20	5825	Ant0	92.97	0.32	2.27
n20	5745	Ant1	93.06	0.31	2.22
n20	5785	Ant1	93.02	0.31	2.22
n20	5825	Ant1	93.09	0.31	2.22
n40	5755	Ant0	92.97	0.32	2.27
n40	5795	Ant0	92.93	0.32	2.27
n40	5755	Ant1	92.77	0.33	2.27
n40	5795	Ant1	92.22	0.35	2.22
ac20	5745	Ant0	87.04	0.6	4.55
ac20	5785	Ant0	87.1	0.6	4.55
ac20	5825	Ant0	87.14	0.6	4.55
ac20	5745	Ant1	87.25	0.59	4.35
ac20	5785	Ant1	87.22	0.59	4.35
ac20	5825	Ant1	87.25	0.59	4.35
ac40	5755	Ant0	87.38	0.59	4.35
ac40	5795	Ant0	87.32	0.59	4.35
ac40	5755	Ant1	86.93	0.61	4.35
ac40	5795	Ant1	85.52	0.68	4.35
ac80	5775	Ant0	87.37	0.59	4.35
ac80	5775	Ant1	81.78	0.87	4.55
ax20	5745	Ant0	86.85	0.61	4.55
ax20	5785	Ant0	87.06	0.6	4.35
ax20	5825	Ant0	86.71	0.62	4.35
ax20	5745	Ant1	87.11	0.6	4.35
ax20	5785	Ant1	87.09	0.6	4.35
ax20	5825	Ant1	87.17	0.6	4.35
ax40	5755	Ant0	87.59	0.58	4.17
ax40	5795	Ant0	87.68	0.57	4
ax40	5755	Ant1	85.12	0.7	4.35



ax40	5795	Ant1	84.92	0.71	4.17
ax80	5775	Ant0	86.73	0.62	4.35
ax80	5775	Ant1	79.97	0.97	4.76

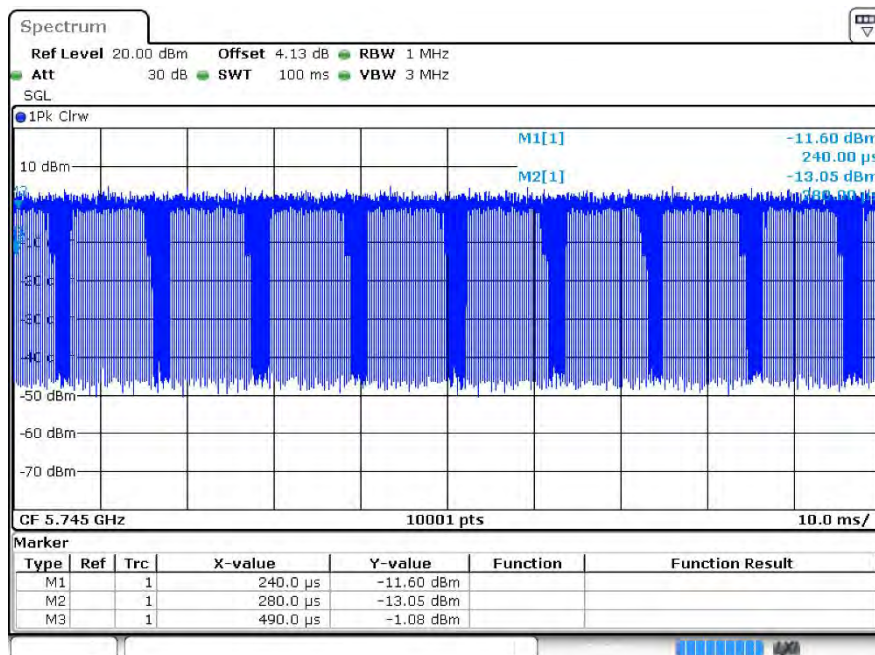
1.2 Test Graphs



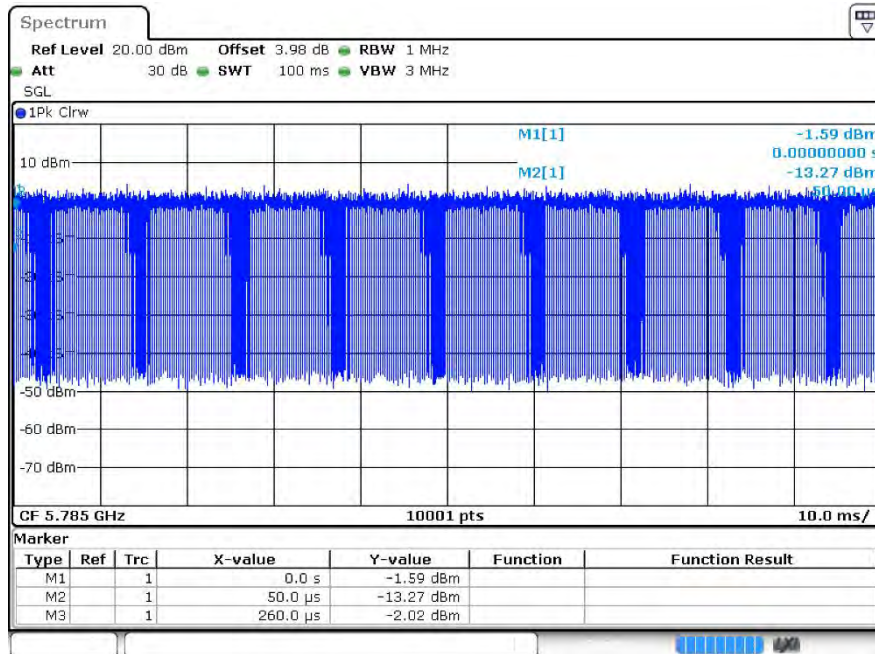
Duty Cycle a 5825MHz Ant0



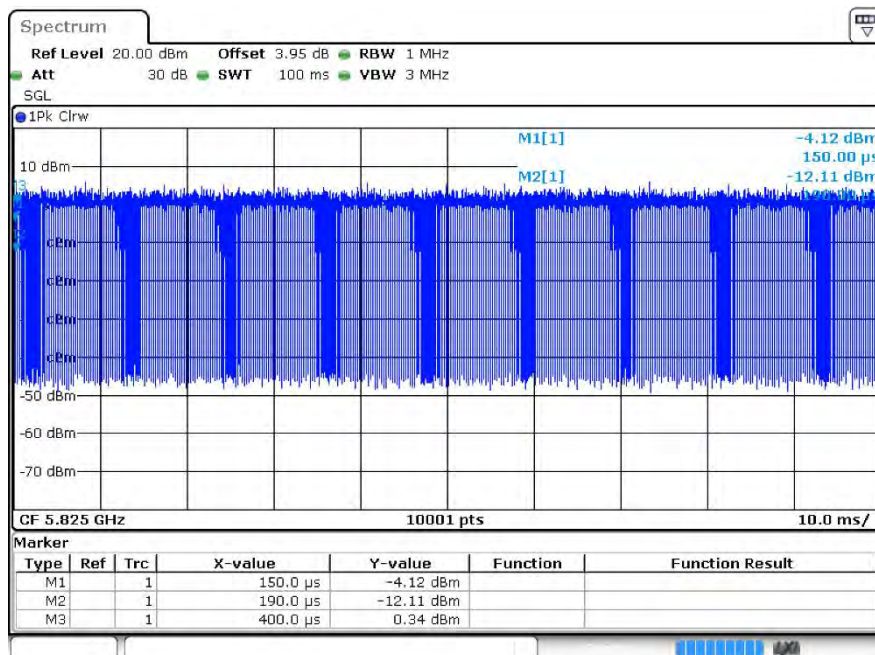
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Duty Cycle a 5785MHz Ant1



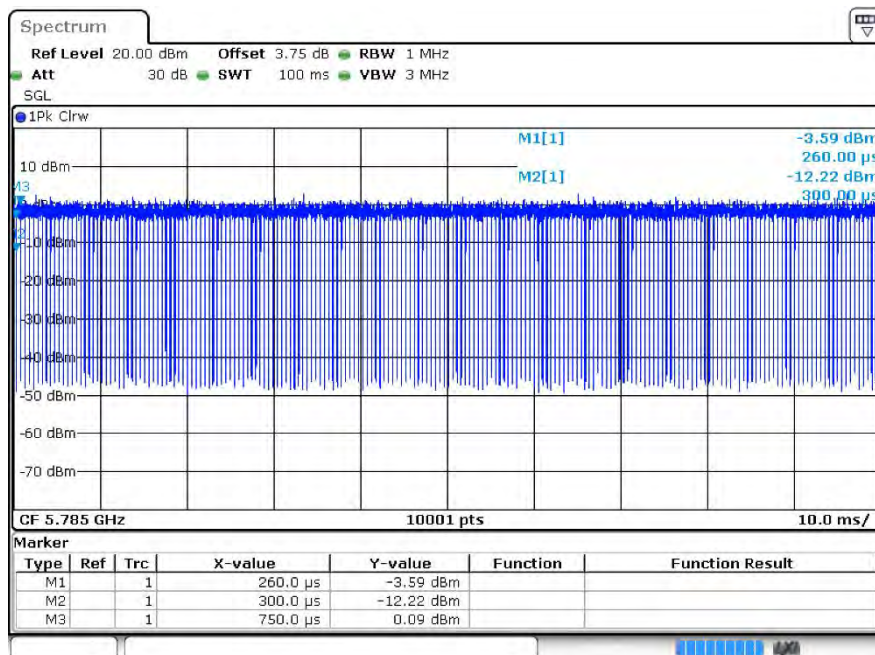
Duty Cycle a 5825MHz Ant1



Duty Cycle n20 5745MHz Ant0



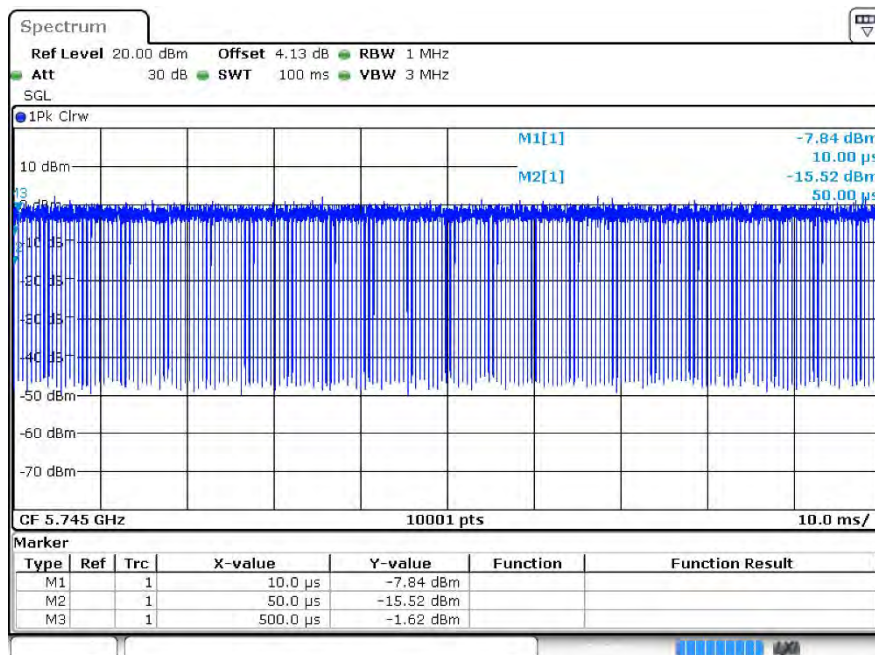
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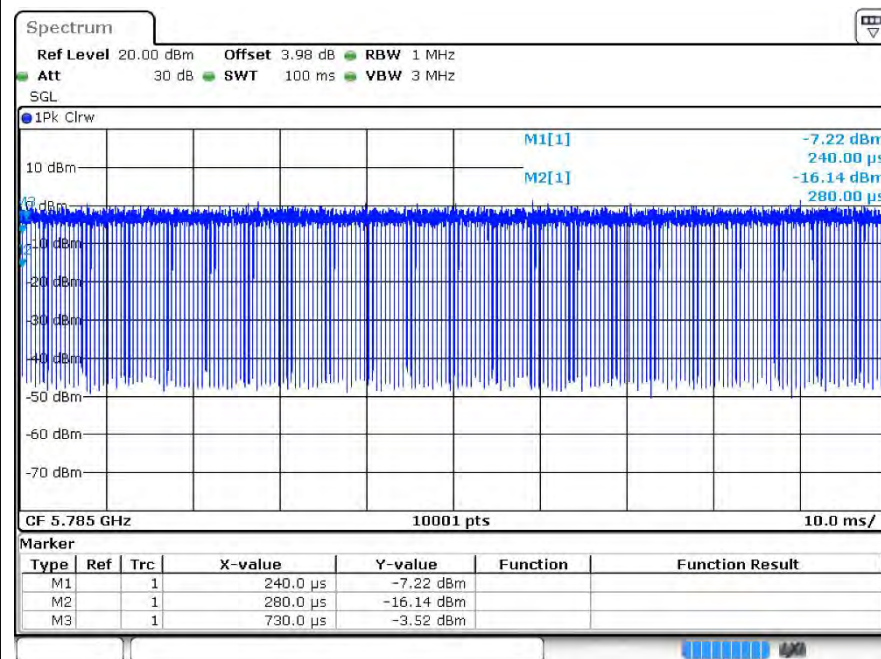
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Duty Cycle n20 5745MHz Ant1



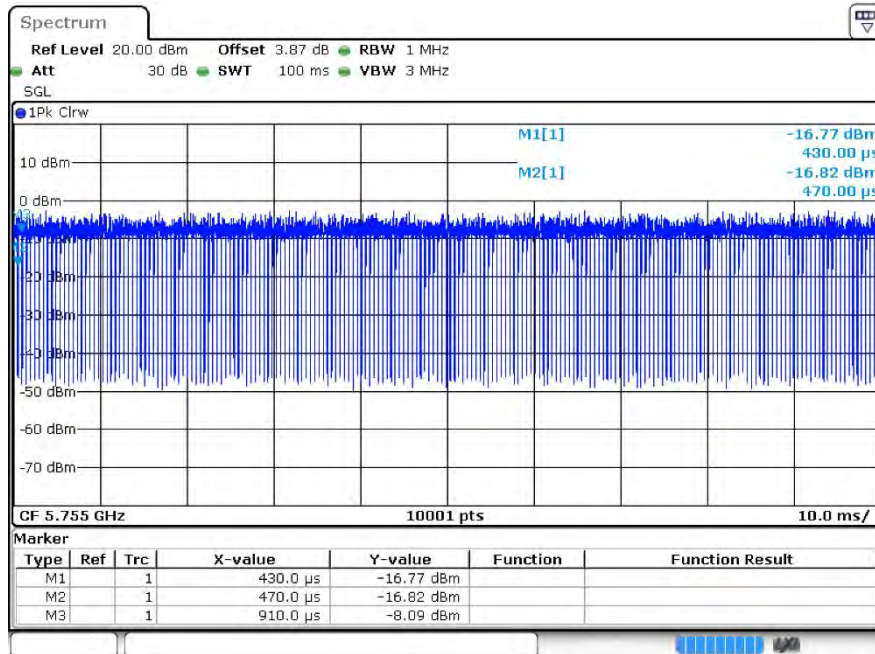
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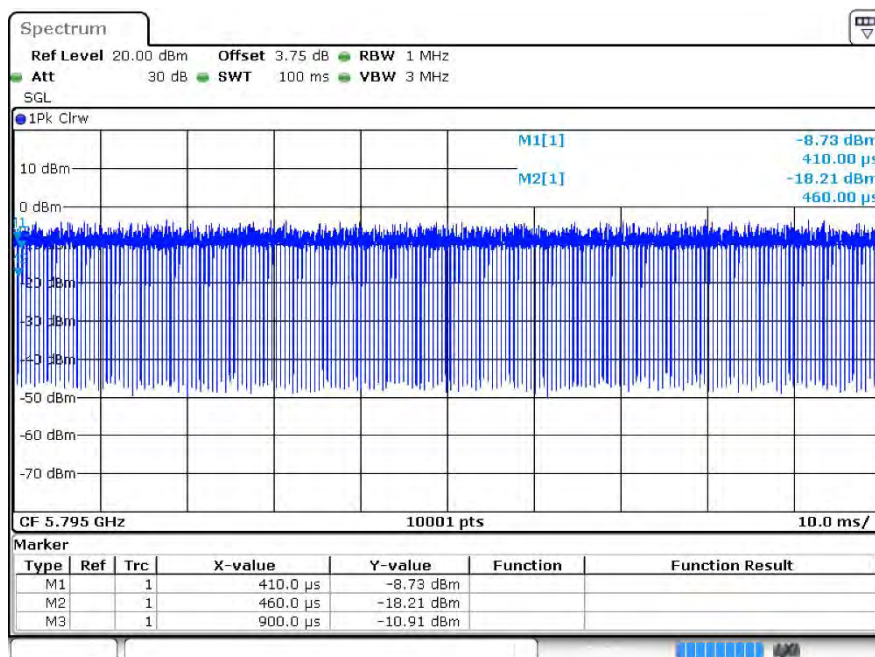
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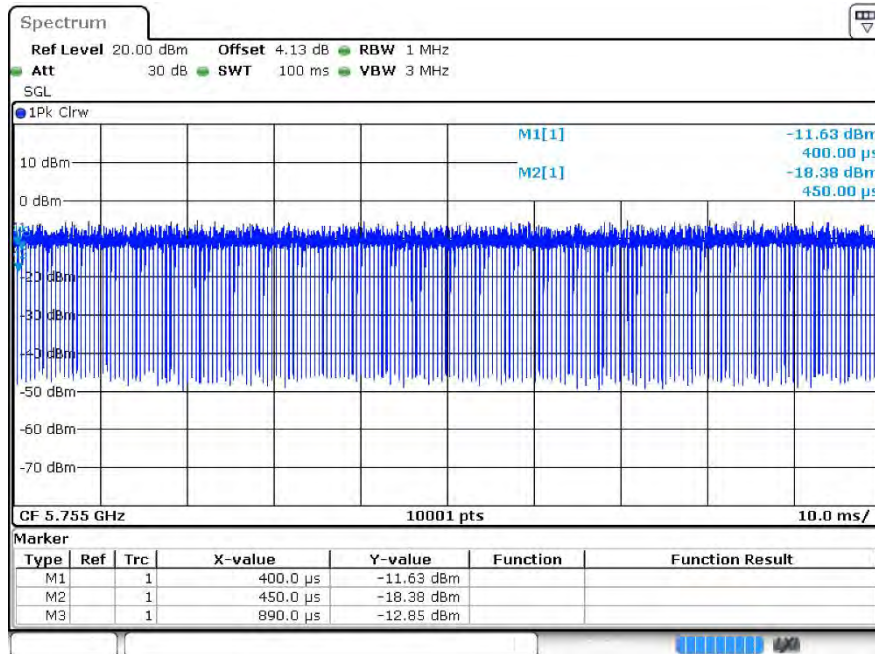
Duty Cycle n40 5755MHz Ant0



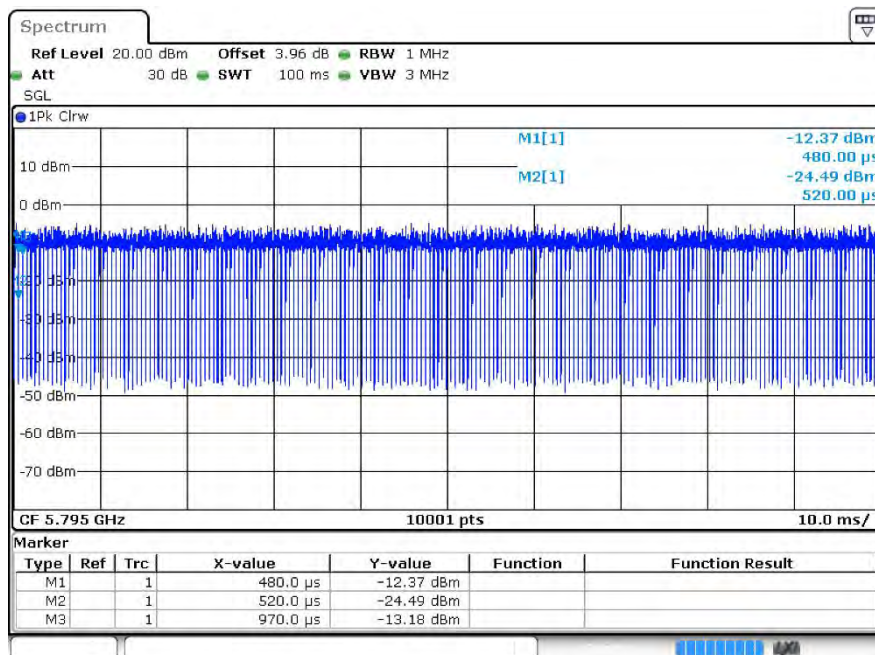
Duty Cycle n40 5795MHz Ant0



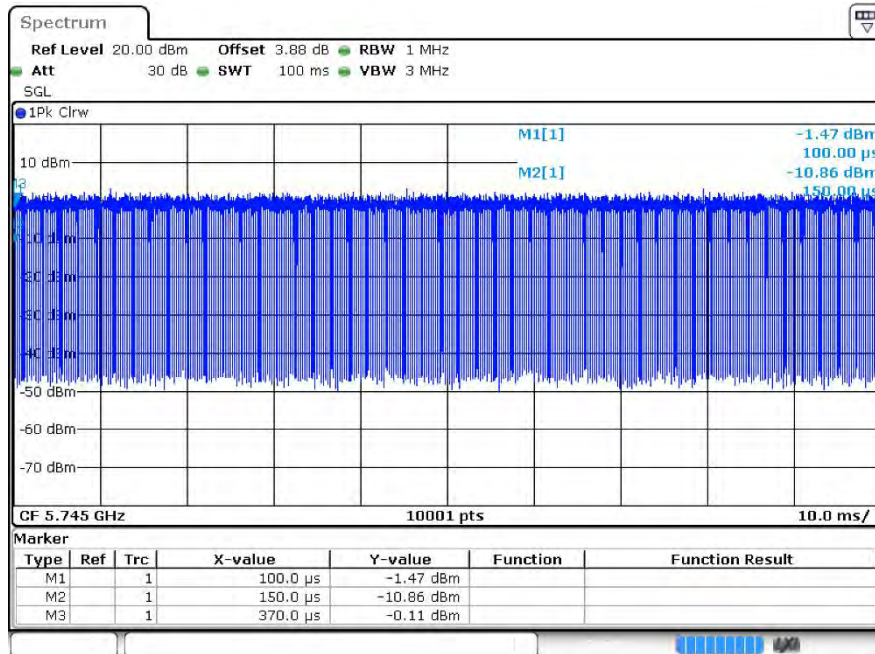
Duty Cycle n40 5755MHz Ant1



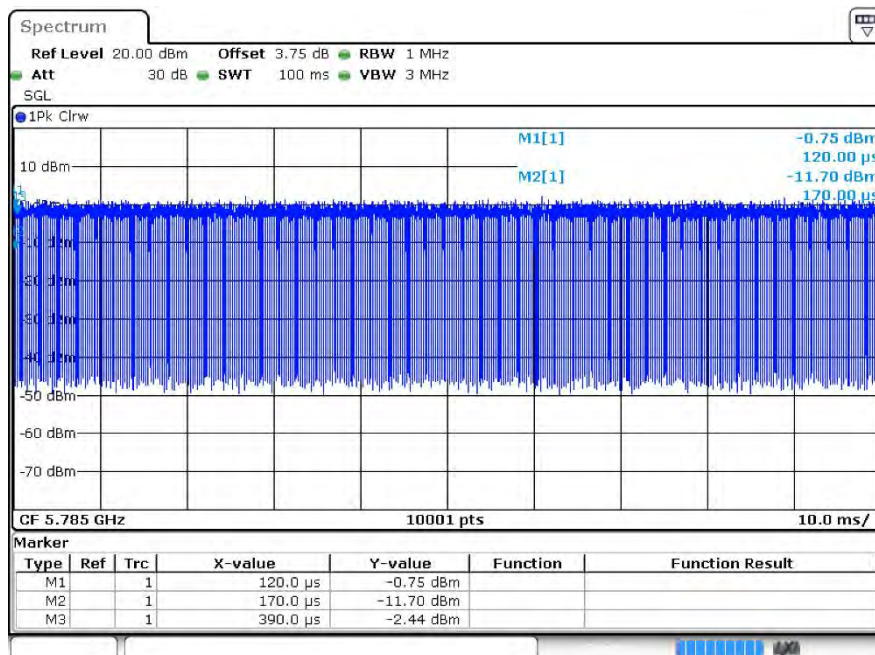
Duty Cycle n40 5795MHz Ant1



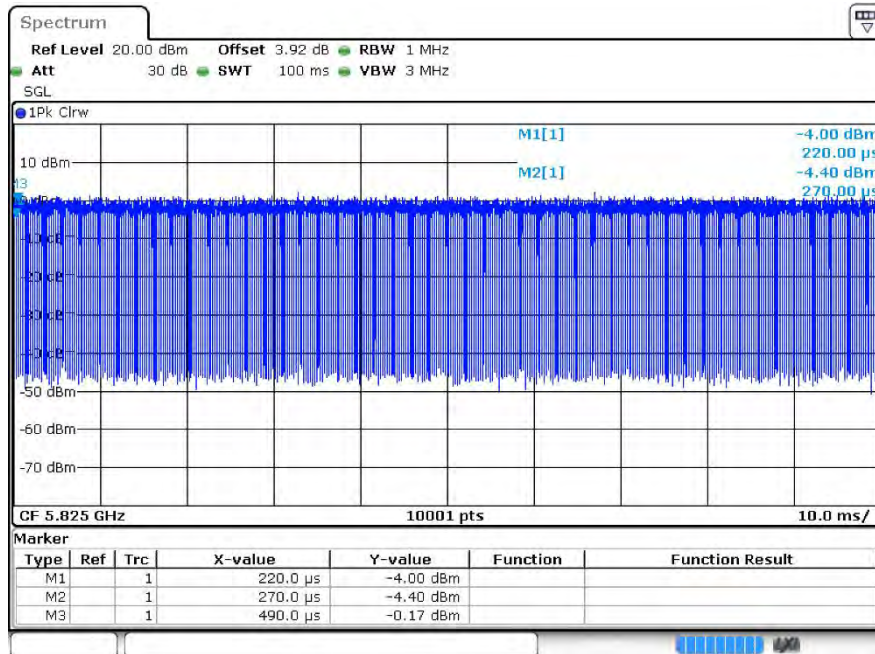
Duty Cycle ac20 5745MHz Ant0



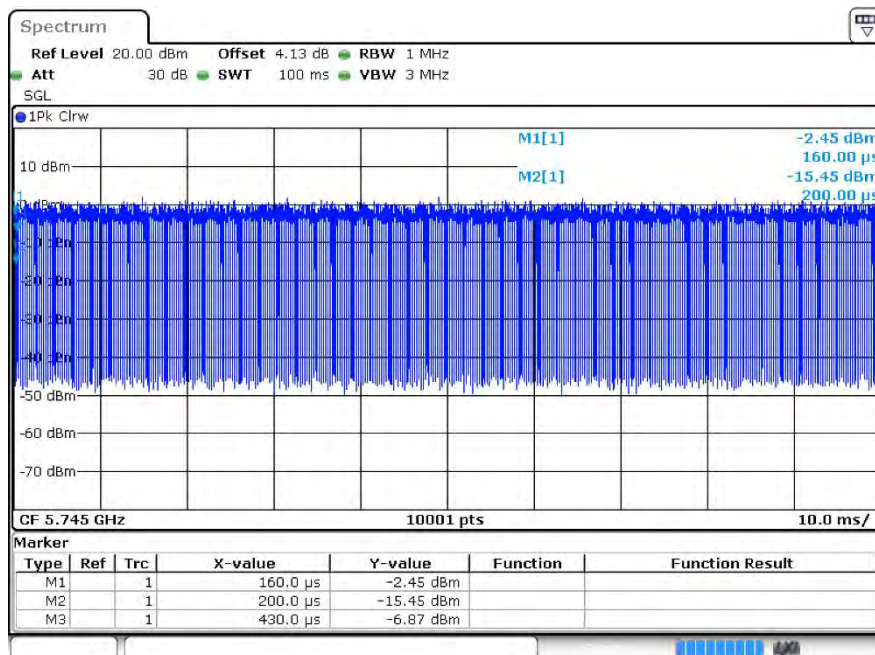
Duty Cycle ac20 5785MHz Ant0



Duty Cycle ac20 5825MHz Ant0



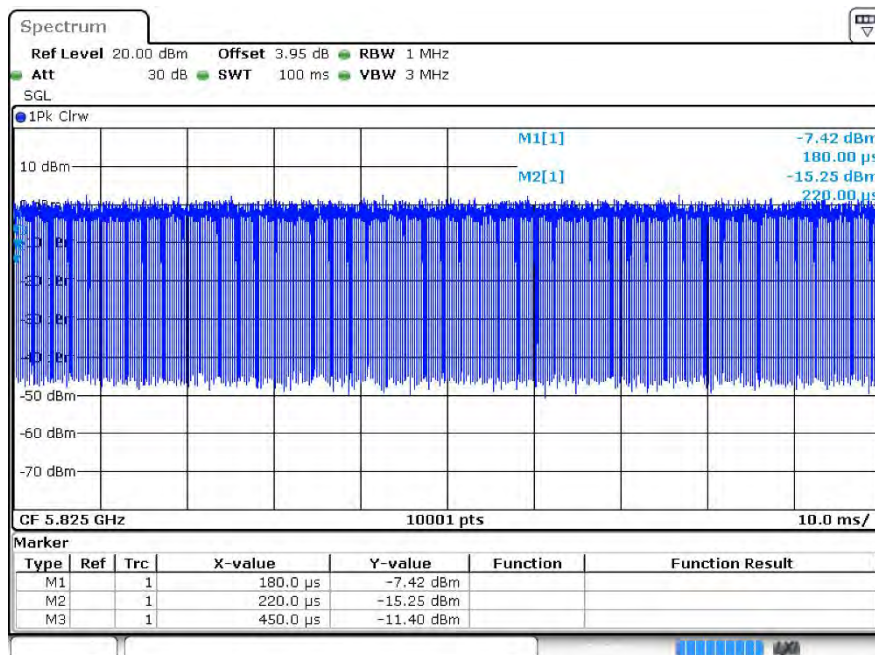
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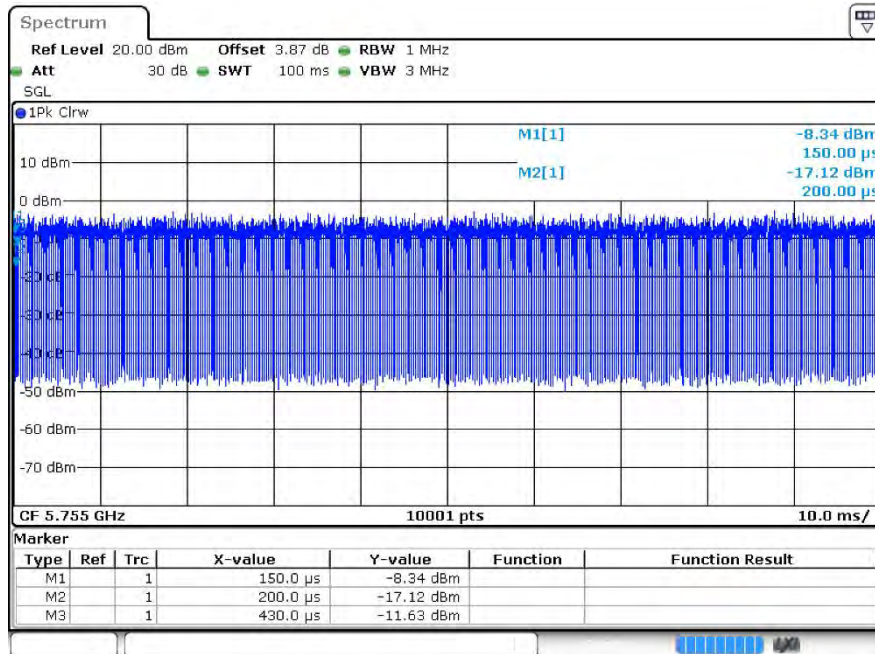
Duty Cycle ac20 5785MHz Ant1



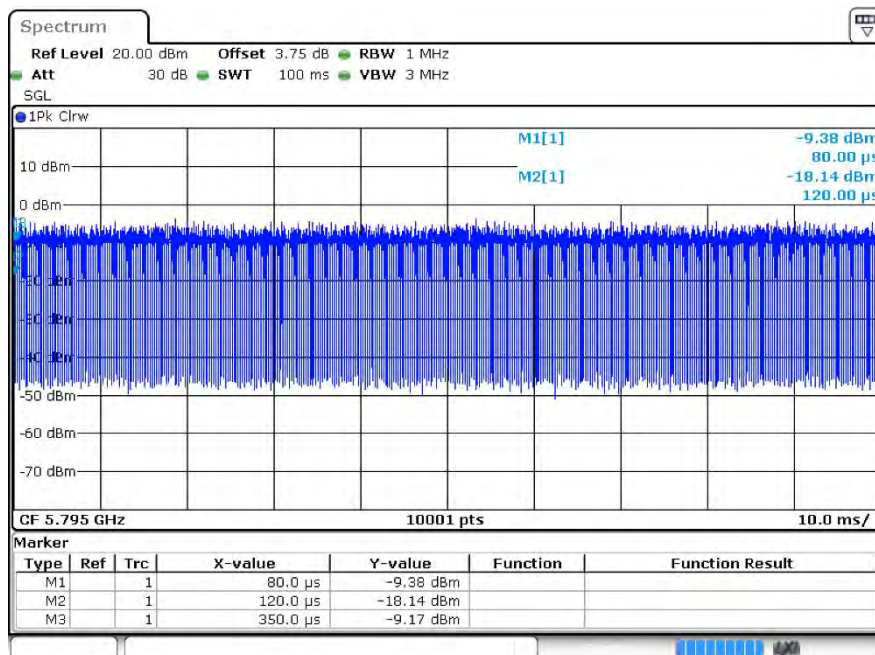
Duty Cycle ac20 5825MHz Ant1



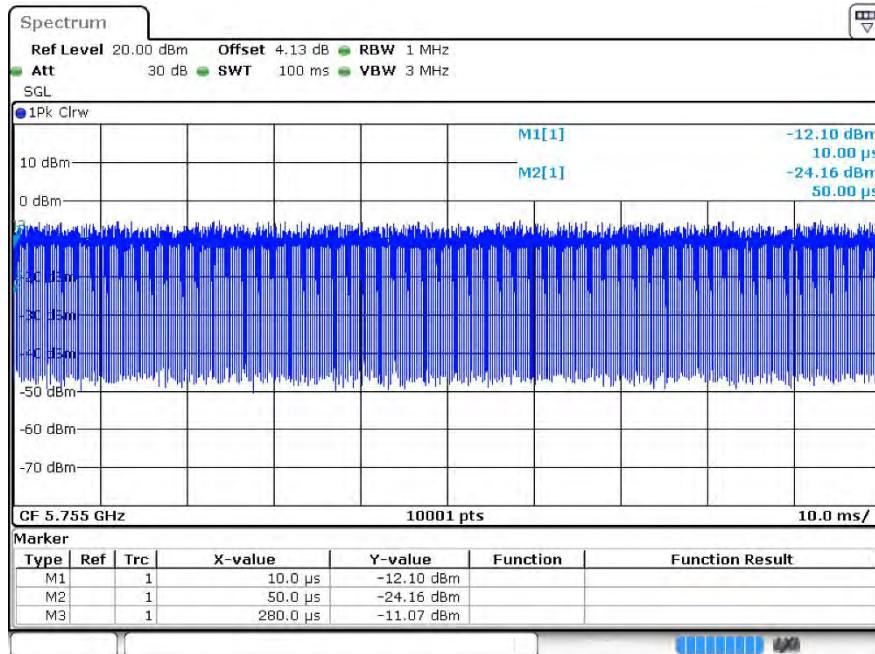
Duty Cycle ac40 5755MHz Ant0



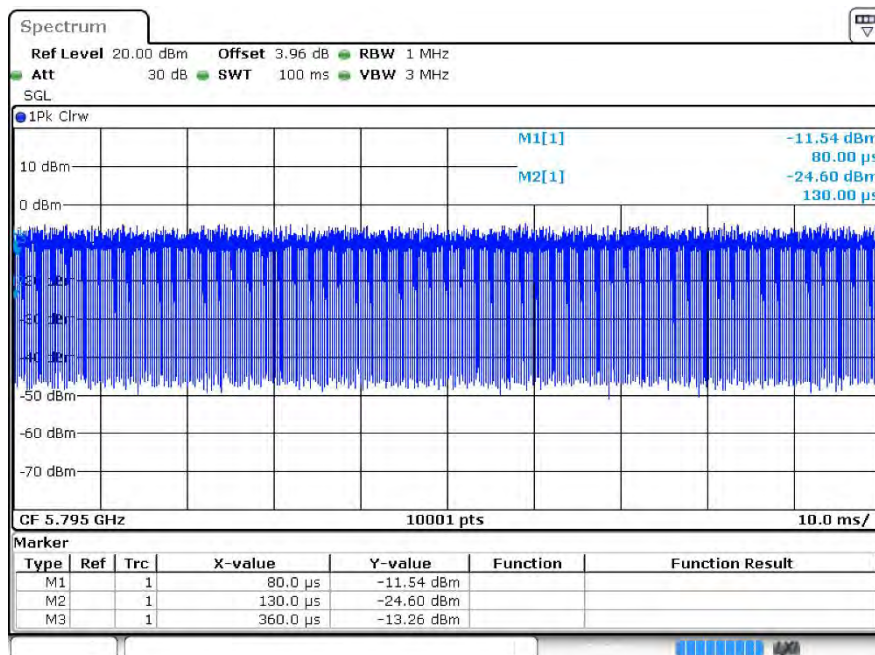
Duty Cycle ac40 5795MHz Ant0



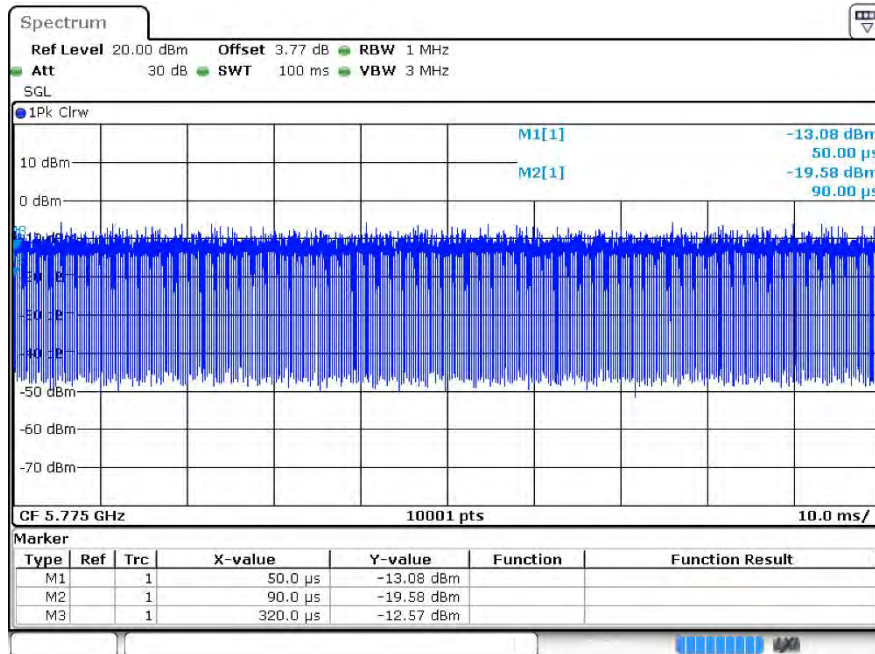
Duty Cycle ac40 5755MHz Ant1



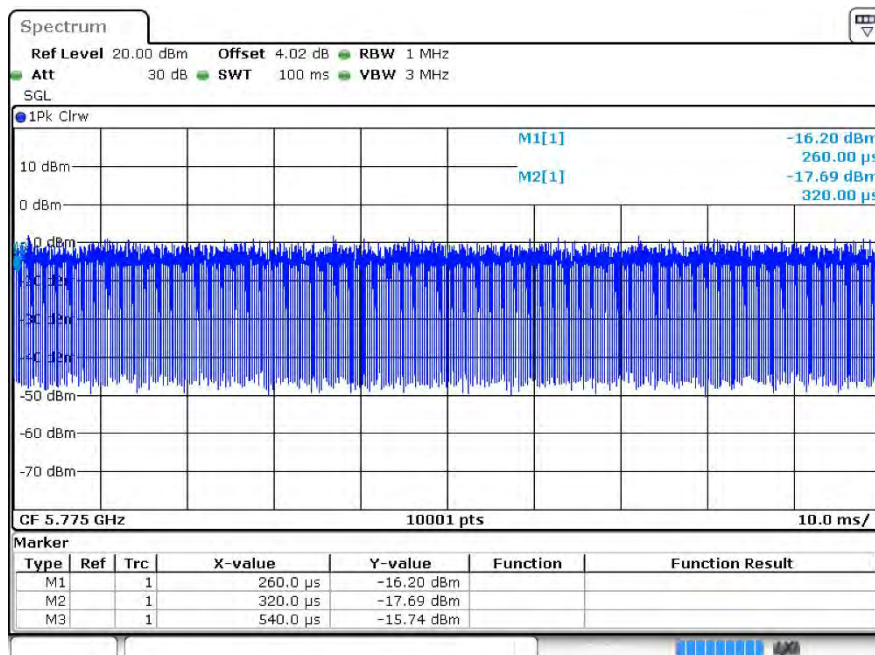
Duty Cycle ac40 5795MHz Ant1



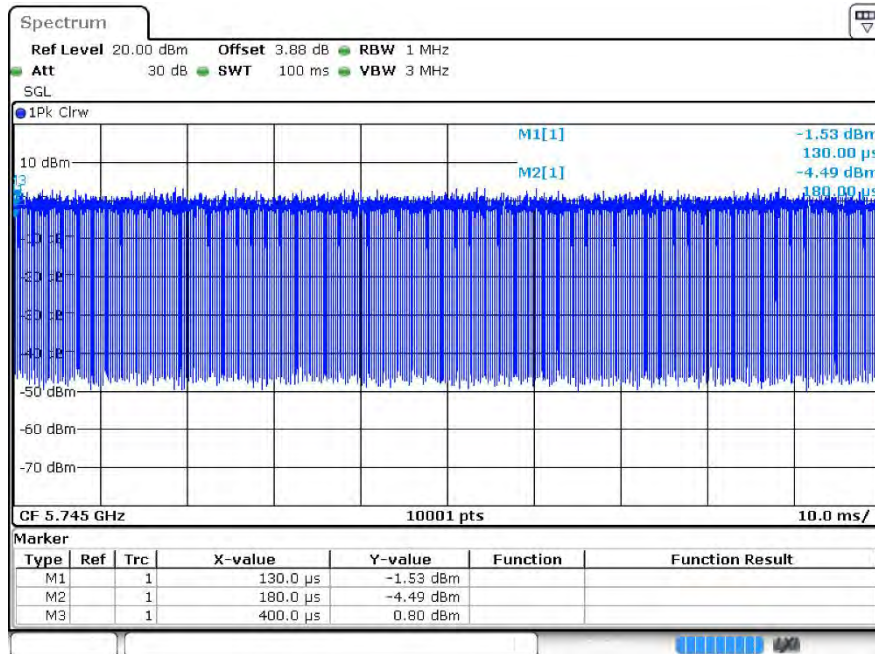
Duty Cycle ac80 5775MHz Ant0



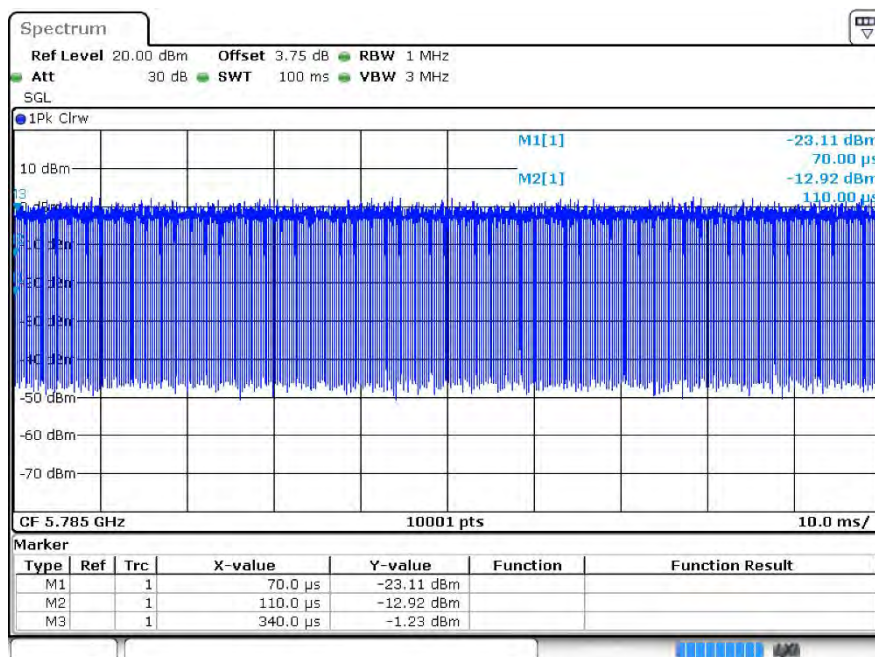
Duty Cycle ac80 5775MHz Ant1



Duty Cycle ax20 5745MHz Ant0



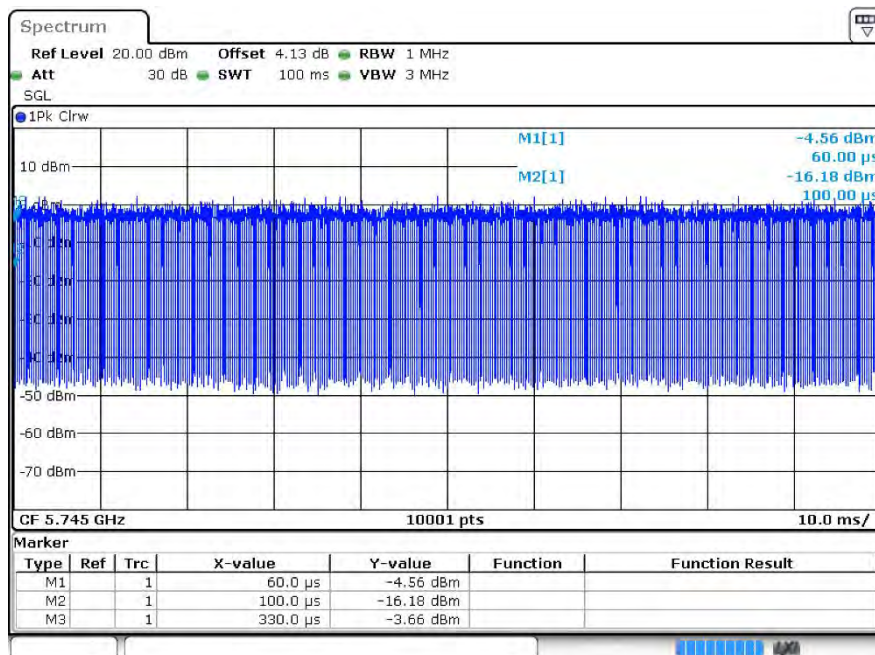
Duty Cycle ax20 5785MHz Ant0



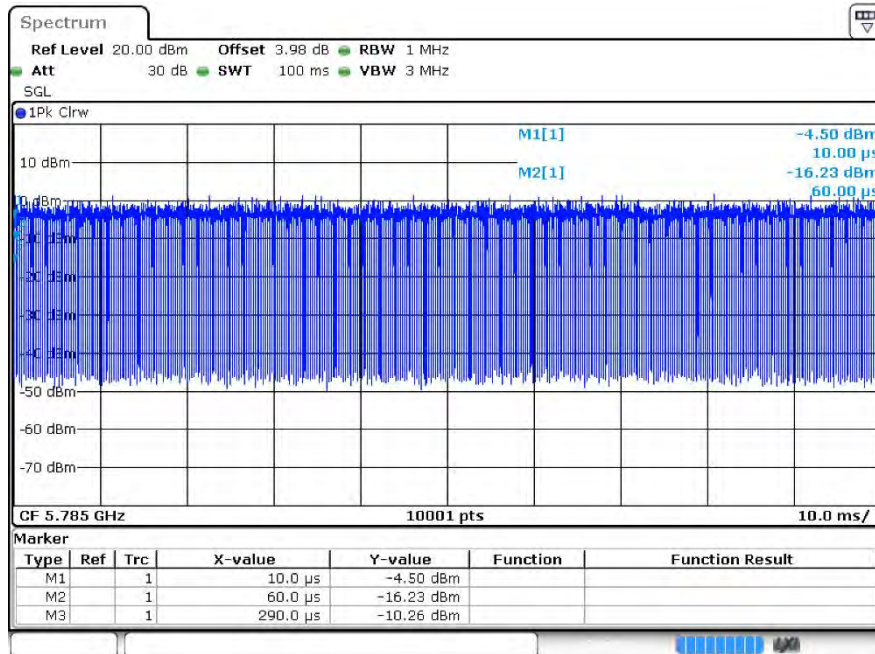
Duty Cycle ax20 5825MHz Ant0



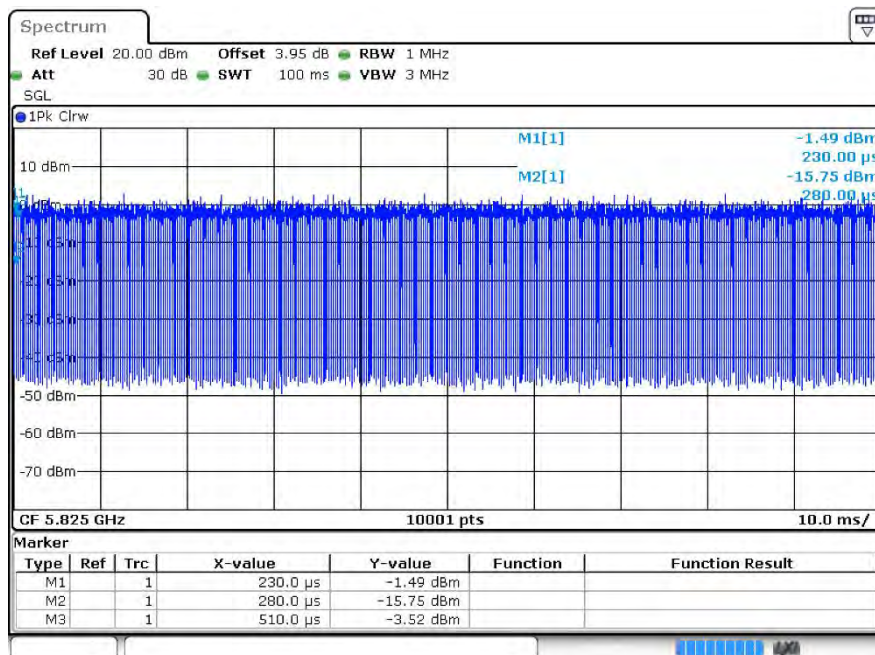
Duty Cycle ax20 5745MHz Ant1



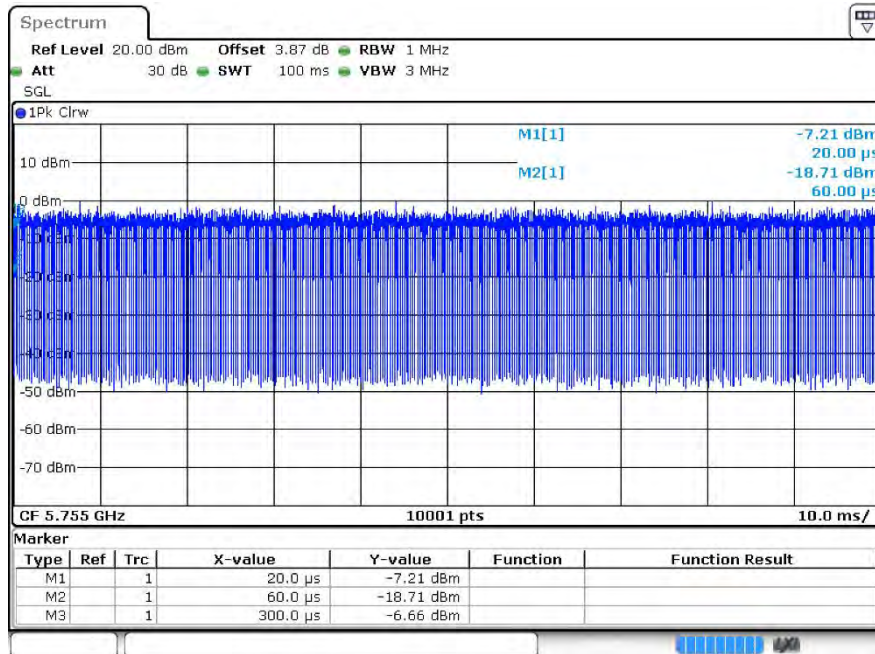
Duty Cycle ax20 5785MHz Ant1



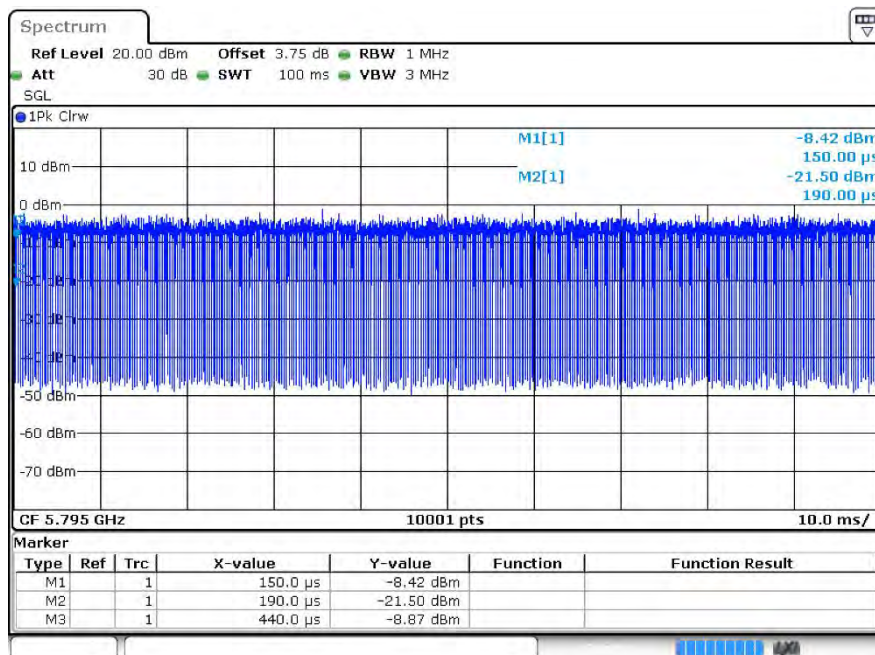
Duty Cycle ax20 5825MHz Ant1



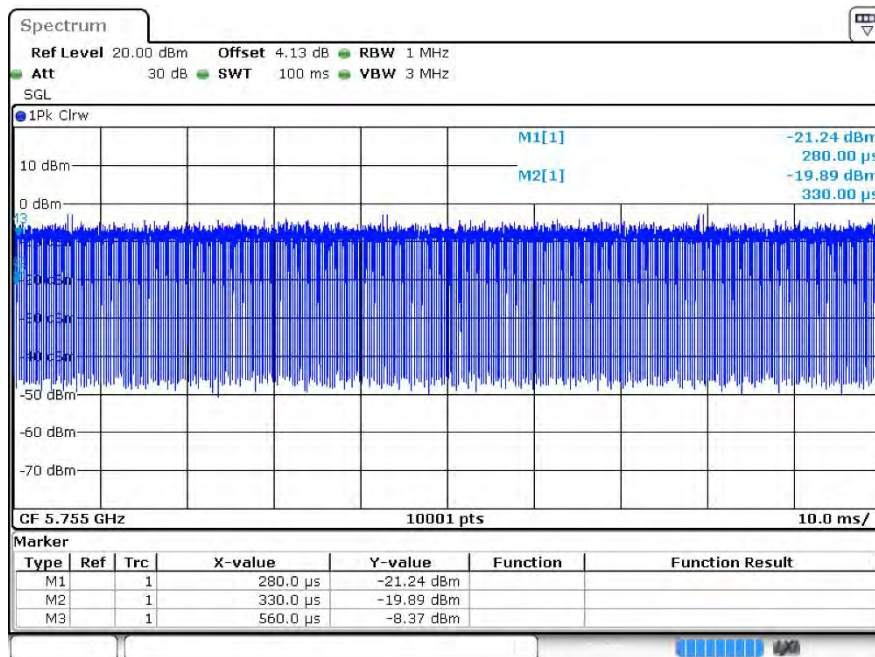
Duty Cycle ax40 5755MHz Ant0



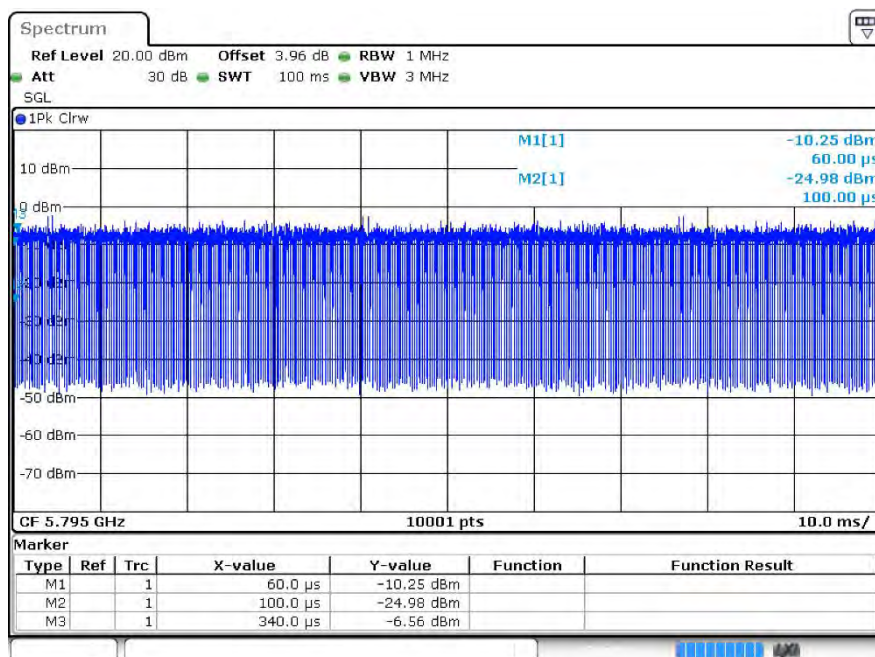
Duty Cycle ax40 5795MHz Ant0



Duty Cycle ax40 5755MHz Ant1



Duty Cycle ax40 5795MHz Ant1





2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
a	5745	Ant0	14.43	30	Pass
a	5785	Ant0	13.55	30	Pass
a	5825	Ant0	13.56	30	Pass
n20	5745	Ant0	11.77	30	Pass
n20	5785	Ant0	10.87	30	Pass
n20	5825	Ant0	10.95	30	Pass
n40	5755	Ant0	11.39	30	Pass
n40	5795	Ant0	10.61	30	Pass
ac20	5745	Ant0	11.79	30	Pass
ac20	5785	Ant0	10.91	30	Pass
ac20	5825	Ant0	10.93	30	Pass
ac40	5755	Ant0	11.41	30	Pass
ac40	5795	Ant0	10.49	30	Pass
ac80	5775	Ant0	10.91	30	Pass
ax20	5745	Ant0	11.93	30	Pass
ax20	5785	Ant0	10.99	30	Pass
ax20	5825	Ant0	10.99	30	Pass
ax40	5755	Ant0	11.57	30	Pass
ax40	5795	Ant0	10.63	30	Pass
ax80	5775	Ant0	10.84	30	Pass
a	5745	Ant1	12.93	30	Pass
a	5785	Ant1	12.14	30	Pass
a	5825	Ant1	13.68	30	Pass
n20	5745	Ant1	10.19	30	Pass
n20	5785	Ant1	9.43	30	Pass
n20	5825	Ant1	10.96	30	Pass
n40	5755	Ant1	9.14	30	Pass
n40	5795	Ant1	9.31	30	Pass
ac20	5745	Ant1	10.45	30	Pass
ac20	5785	Ant1	9.63	30	Pass
ac20	5825	Ant1	11.26	30	Pass
ac40	5755	Ant1	9.54	30	Pass
ac40	5795	Ant1	9.69	30	Pass
ac80	5775	Ant1	8.92	30	Pass
ax20	5745	Ant1	10.2	30	Pass
ax20	5785	Ant1	9.56	30	Pass



ax20	5825	Ant1	10.95	30	Pass
ax40	5755	Ant1	9.11	30	Pass
ax40	5795	Ant1	9.13	30	Pass
ax80	5775	Ant1	8.65	30	Pass
n20	5745	Sum	14.04	27.49	Pass
n20	5785	Sum	13.28	27.49	Pass
n20	5825	Sum	13.89	27.49	Pass
n40	5755	Sum	13.46	27.49	Pass
n40	5795	Sum	12.94	27.49	Pass
ac20	5745	Sum	14.17	27.49	Pass
ac20	5785	Sum	13.47	27.49	Pass
ac20	5825	Sum	14.01	27.49	Pass
ac40	5755	Sum	13.57	27.49	Pass
ac40	5795	Sum	13.01	27.49	Pass
ac80	5775	Sum	13.03	27.49	Pass
ax20	5745	Sum	14.16	27.49	Pass
ax20	5785	Sum	13.34	27.49	Pass
ax20	5825	Sum	13.98	27.49	Pass
ax40	5755	Sum	13.52	27.49	Pass
ax40	5795	Sum	12.95	27.49	Pass
ax80	5775	Sum	12.89	27.49	Pass

Note:

The duty factor has been compensated into the result.

Note:

For MIMO mode:

Directional gain= $10\log[(10^{G1/20}+10^{G2/20})^2/2]$ dB_i=8.51dB_i

Limit = $30-(8.51-6)$ =27.49dBm for POWER



3 -6dB Bandwidth

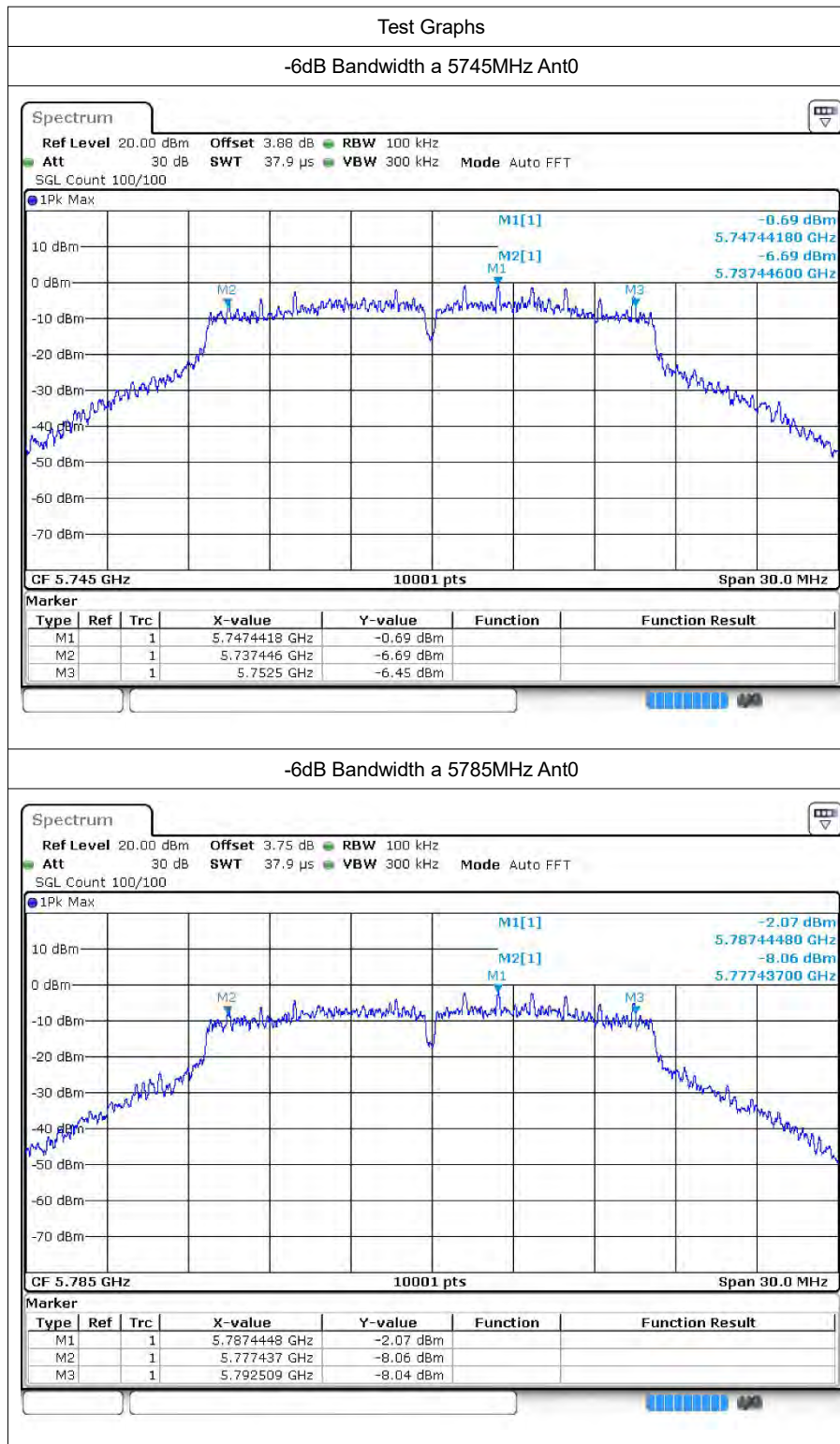
3.1 Test Result

Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
a	5745	Ant0	15.054	0.5	Pass
a	5785	Ant0	15.072	0.5	Pass
a	5825	Ant0	15.108	0.5	Pass
n20	5745	Ant0	15.096	0.5	Pass
n20	5785	Ant0	16.014	0.5	Pass
n20	5825	Ant0	15.09	0.5	Pass
n40	5755	Ant0	35.01	0.5	Pass
n40	5795	Ant0	33.828	0.5	Pass
ac20	5745	Ant0	15.093	0.5	Pass
ac20	5785	Ant0	15.123	0.5	Pass
ac20	5825	Ant0	15.099	0.5	Pass
ac40	5755	Ant0	35.064	0.5	Pass
ac40	5795	Ant0	35.094	0.5	Pass
ac80	5775	Ant0	75.048	0.5	Pass
ax20	5745	Ant0	16.041	0.5	Pass
ax20	5785	Ant0	17.973	0.5	Pass
ax20	5825	Ant0	16.479	0.5	Pass
ax40	5755	Ant0	35.064	0.5	Pass
ax40	5795	Ant0	35.052	0.5	Pass
ax80	5775	Ant0	61.356	0.5	Pass
a	5745	Ant1	15.108	0.5	Pass
a	5785	Ant1	15.09	0.5	Pass
a	5825	Ant1	12.816	0.5	Pass
n20	5745	Ant1	17.295	0.5	Pass
n20	5785	Ant1	15.075	0.5	Pass
n20	5825	Ant1	15.105	0.5	Pass
n40	5755	Ant1	31.362	0.5	Pass
n40	5795	Ant1	31.284	0.5	Pass
ac20	5745	Ant1	15.096	0.5	Pass
ac20	5785	Ant1	15.084	0.5	Pass
ac20	5825	Ant1	15.102	0.5	Pass
ac40	5755	Ant1	35.07	0.5	Pass
ac40	5795	Ant1	31.296	0.5	Pass
ac80	5775	Ant1	73.812	0.5	Pass
ax20	5745	Ant1	17.646	0.5	Pass
ax20	5785	Ant1	17.775	0.5	Pass
ax20	5825	Ant1	15.636	0.5	Pass

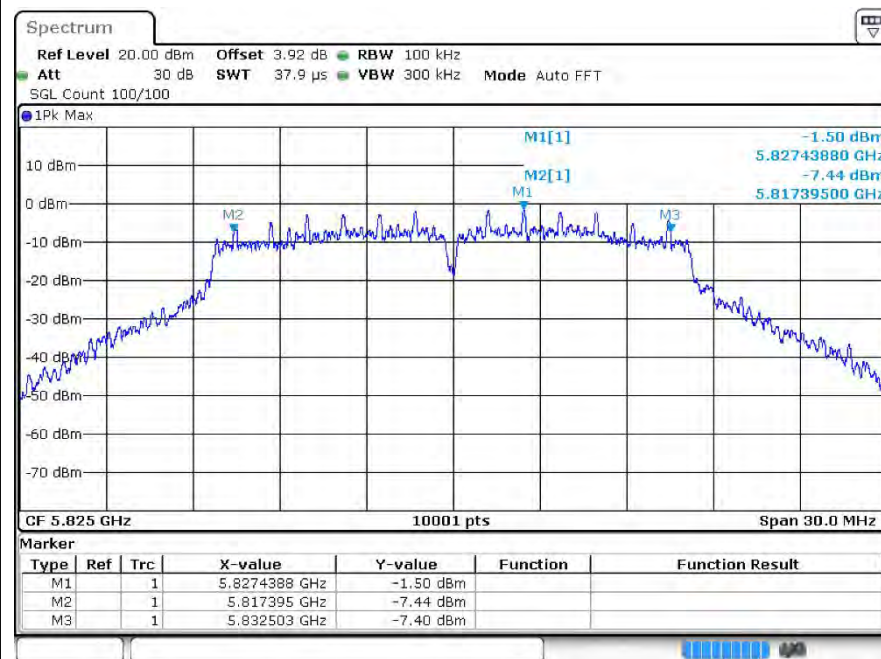


ax40	5755	Ant1	33.81	0.5	Pass
ax40	5795	Ant1	35.052	0.5	Pass
ax80	5775	Ant1	75.048	0.5	Pass

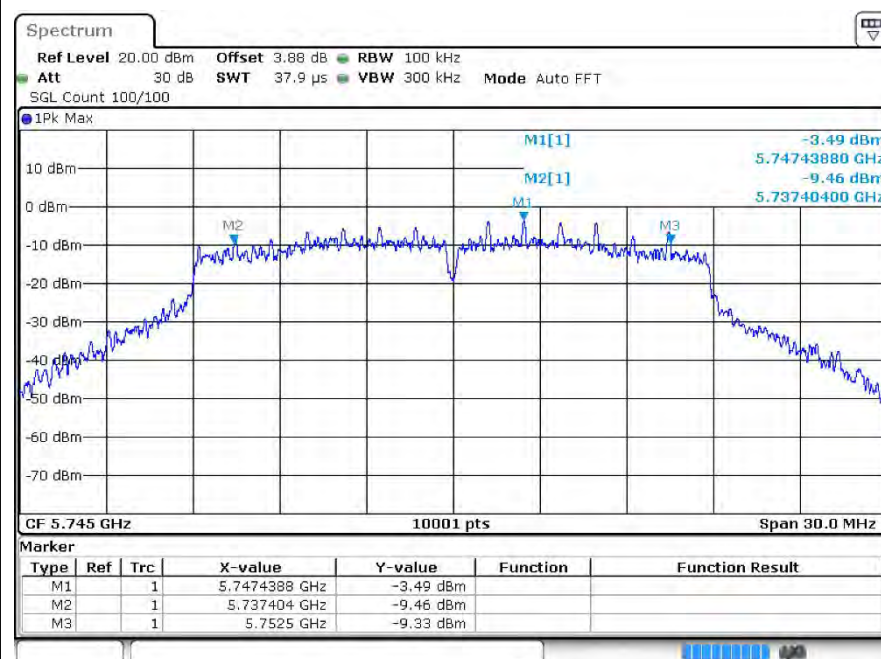
3.2 Test Graphs



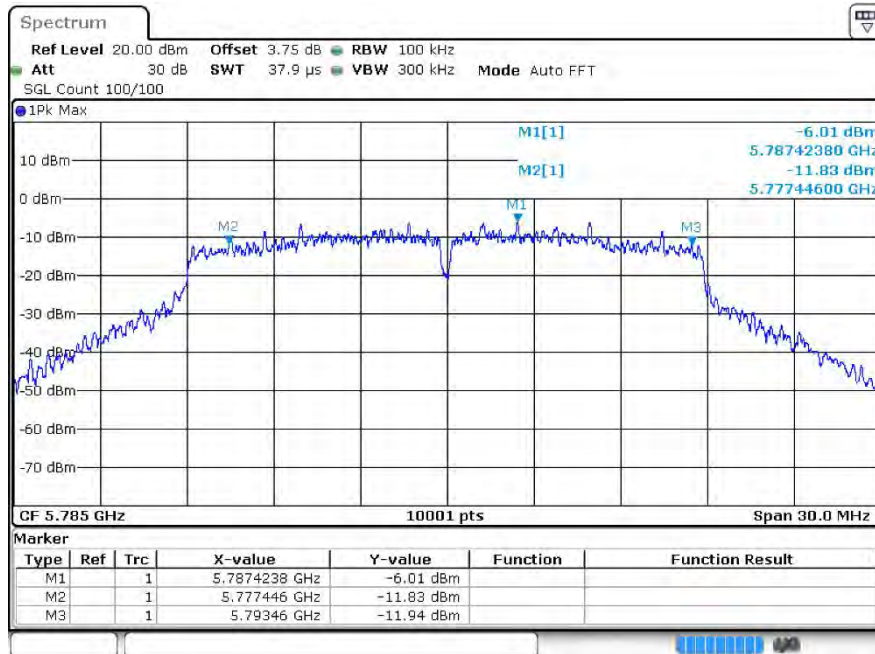
-6dB Bandwidth a 5825MHz Ant0



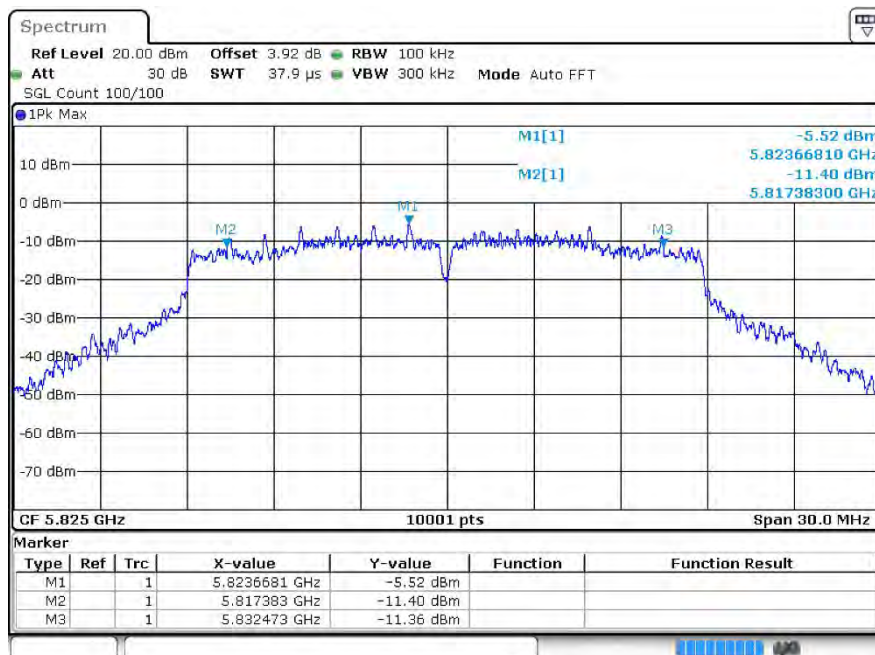
-6dB Bandwidth n20 5745MHz Ant0



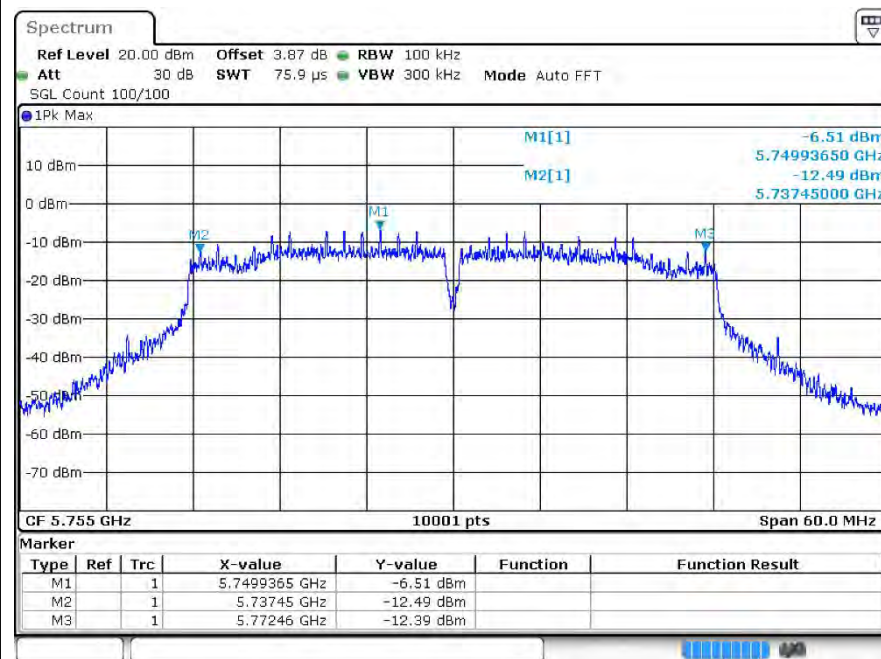
-6dB Bandwidth n20 5785MHz Ant0



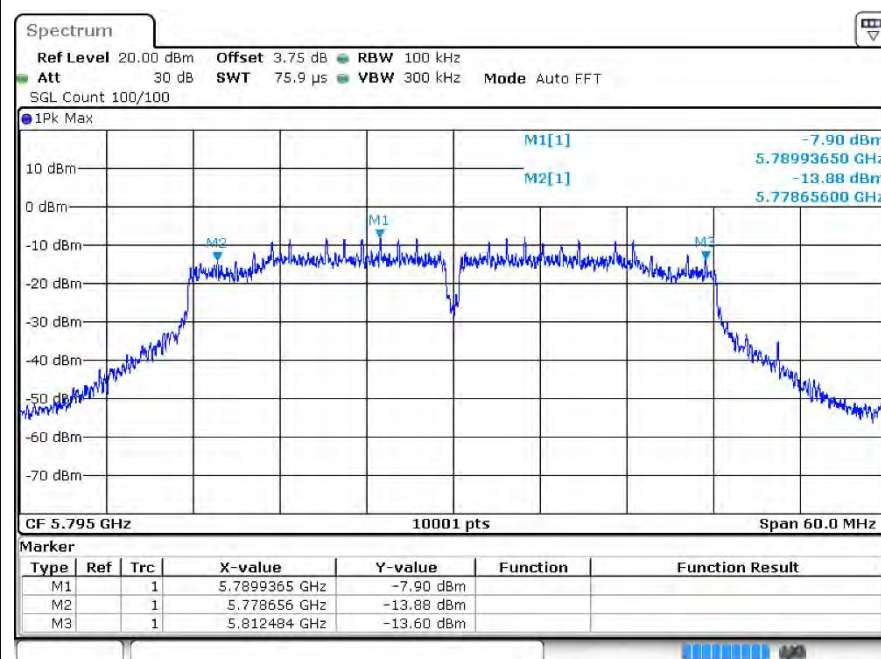
-6dB Bandwidth n20 5825MHz Ant0



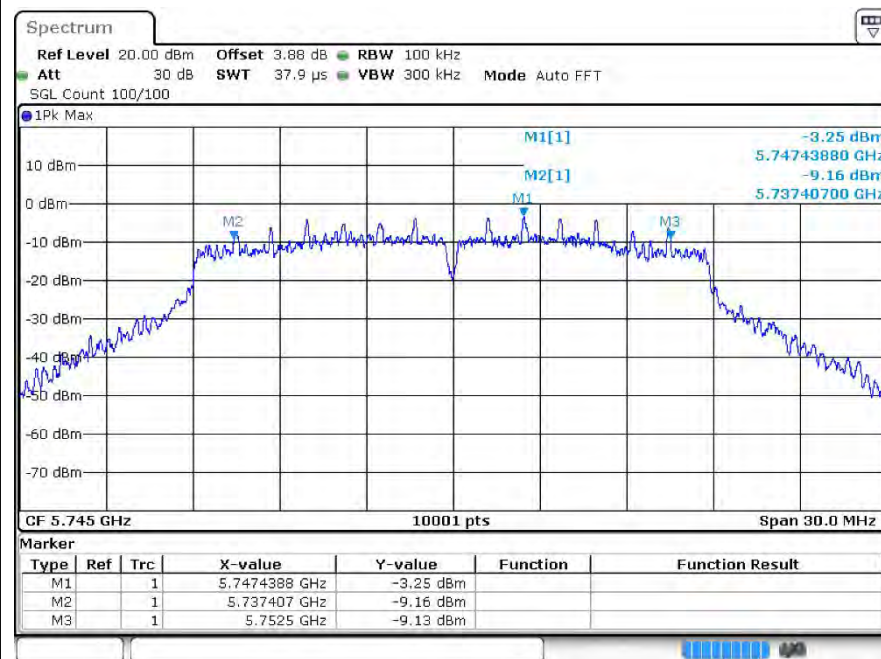
-6dB Bandwidth n40 5755MHz Ant0



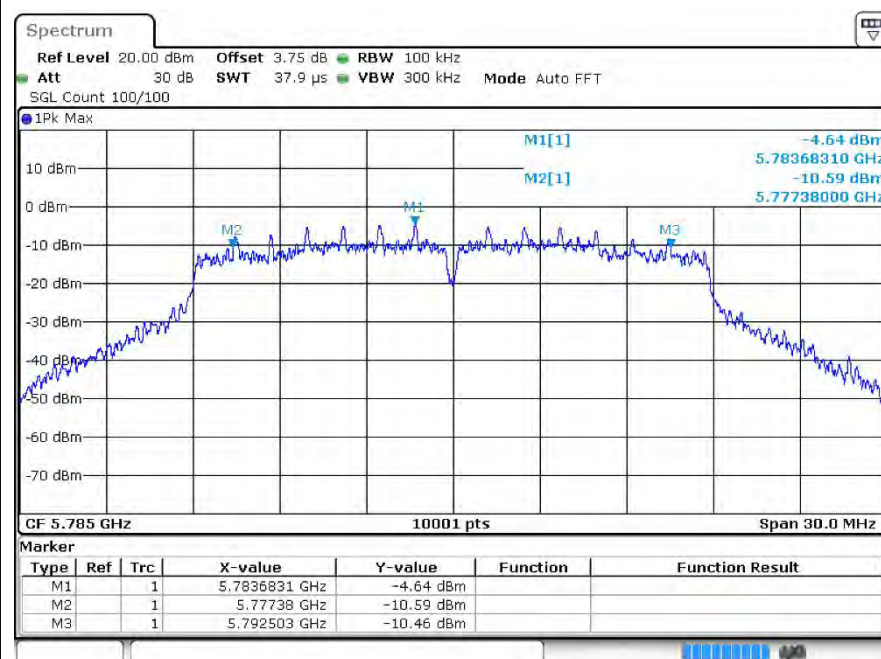
-6dB Bandwidth n40 5795MHz Ant0



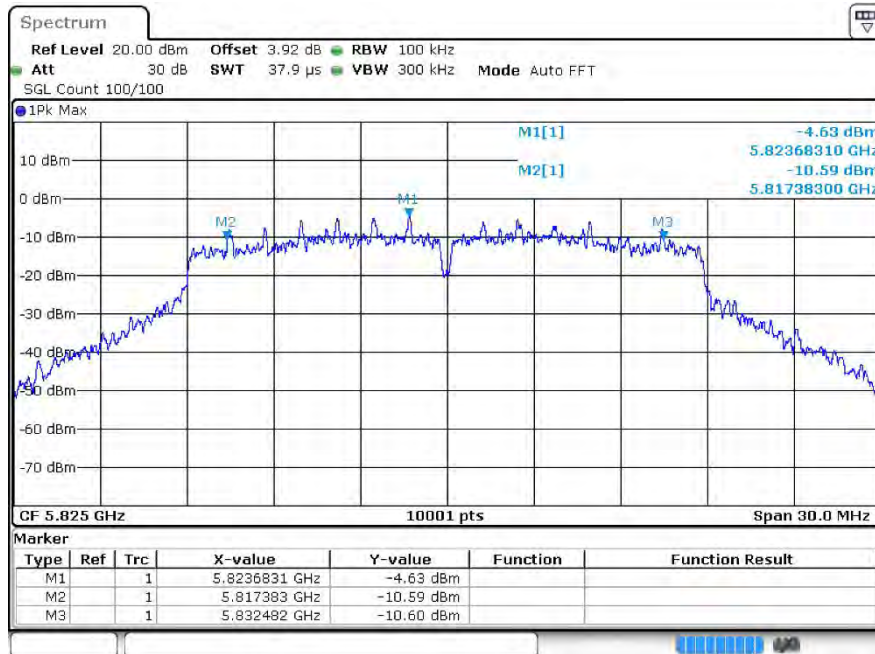
-6dB Bandwidth ac20 5745MHz Ant0



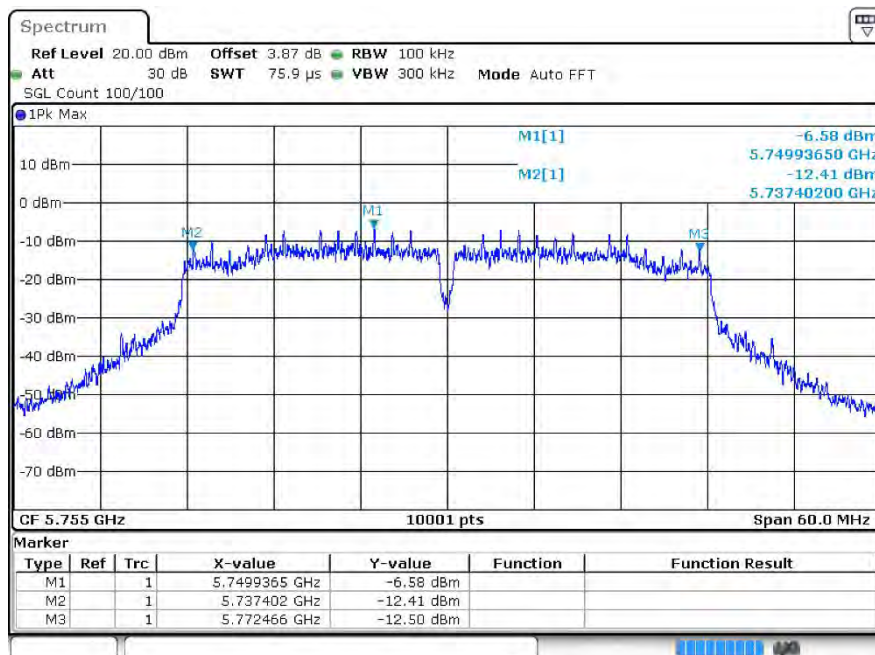
-6dB Bandwidth ac20 5785MHz Ant0



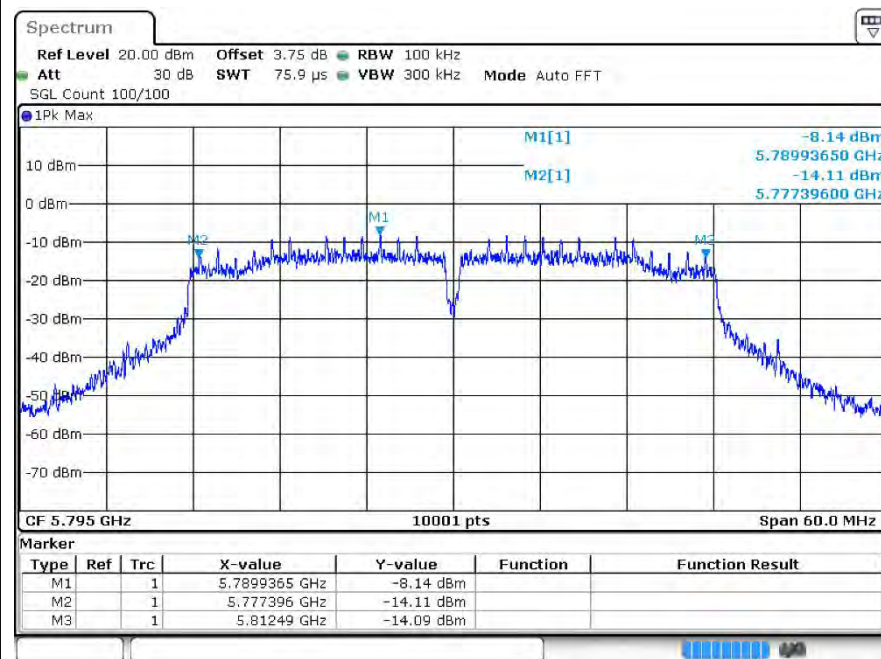
-6dB Bandwidth ac20 5825MHz Ant0



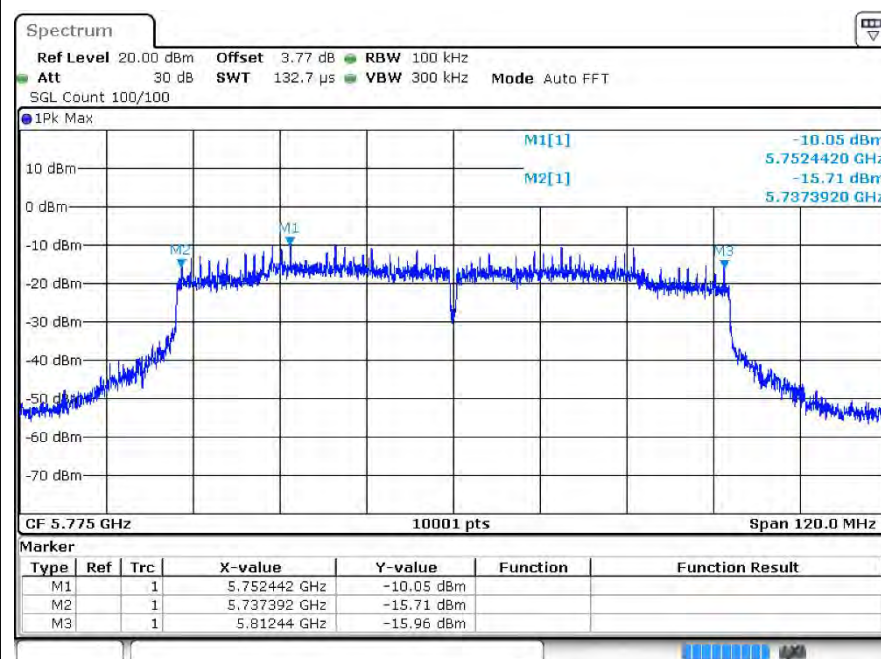
-6dB Bandwidth ac40 5755MHz Ant0



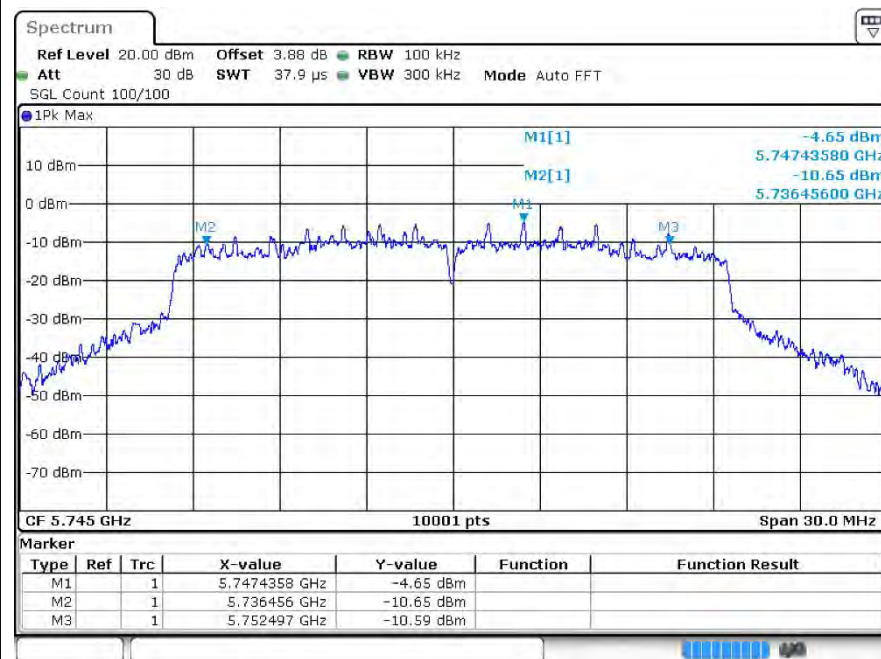
-6dB Bandwidth ac40 5795MHz Ant0



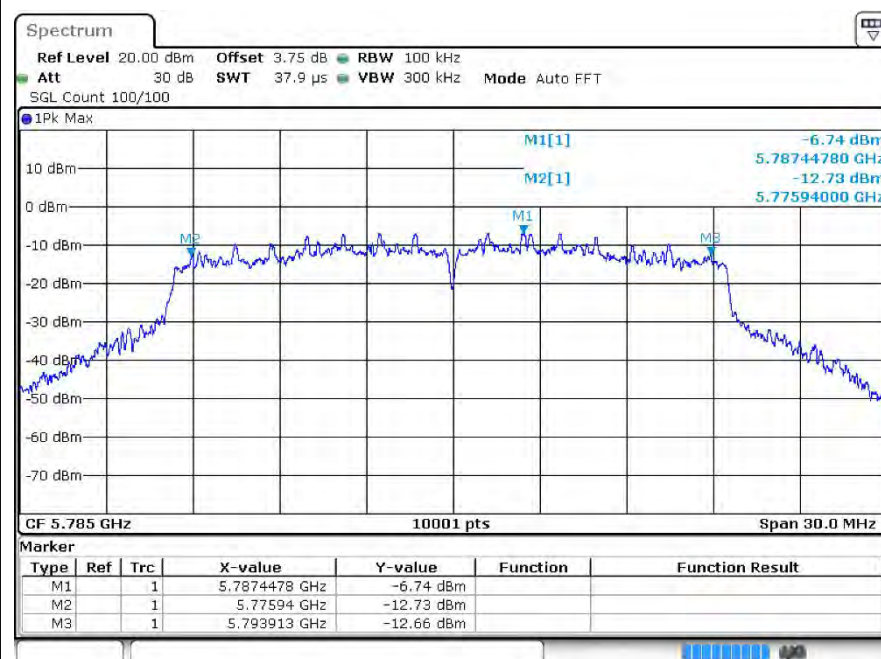
-6dB Bandwidth ac80 5775MHz Ant0



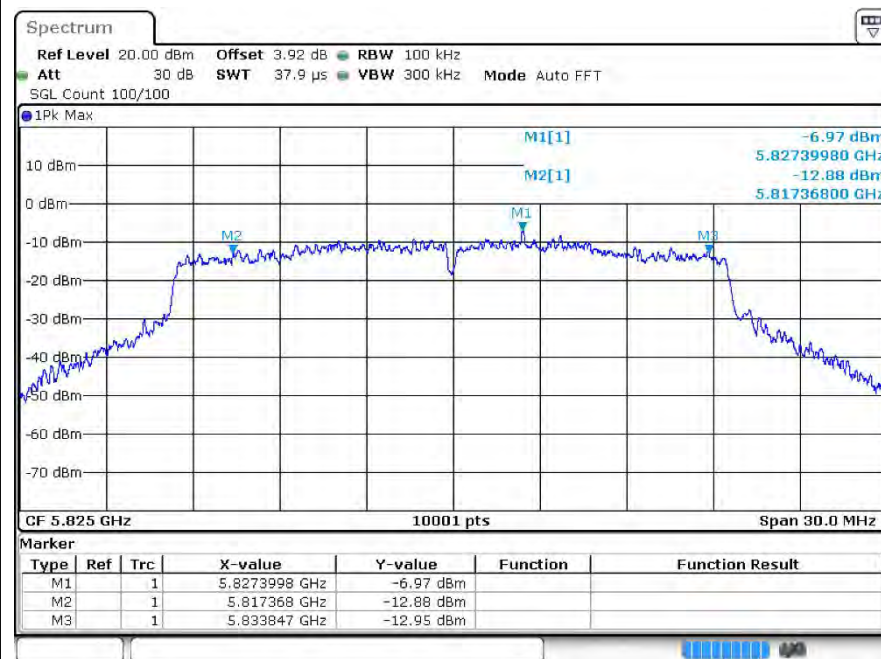
-6dB Bandwidth ax20 5745MHz Ant0



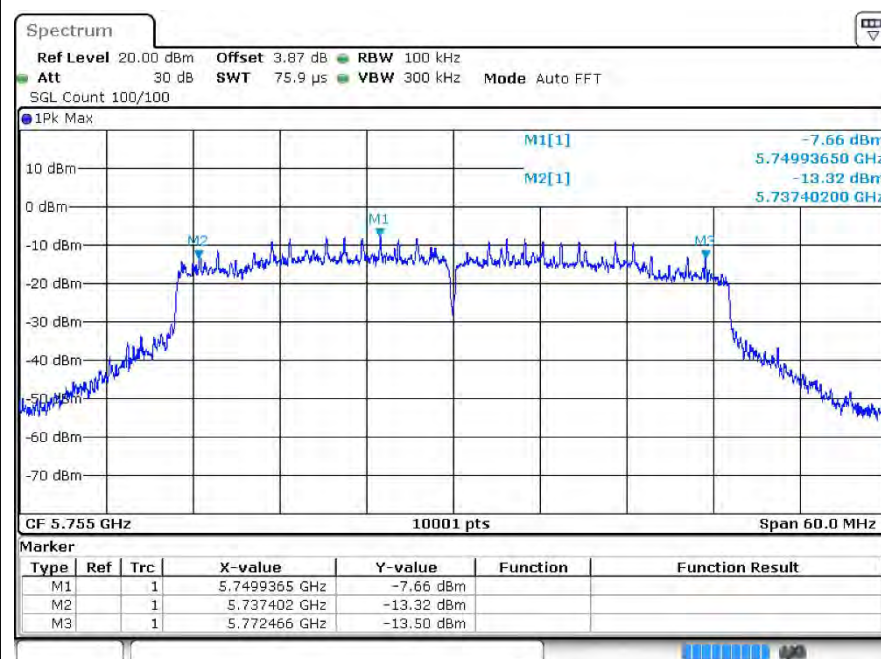
-6dB Bandwidth ax20 5785MHz Ant0



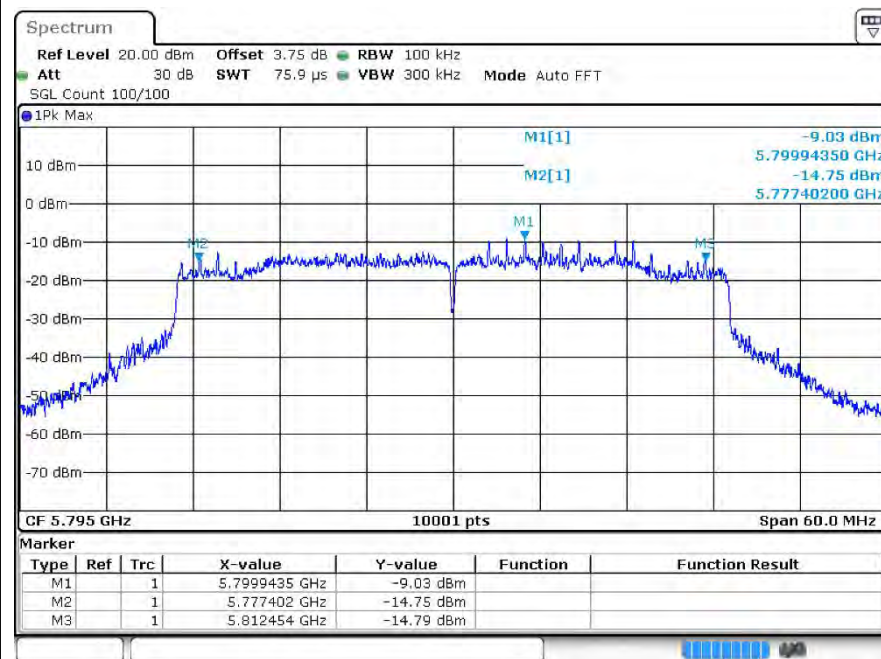
-6dB Bandwidth ax20 5825MHz Ant0



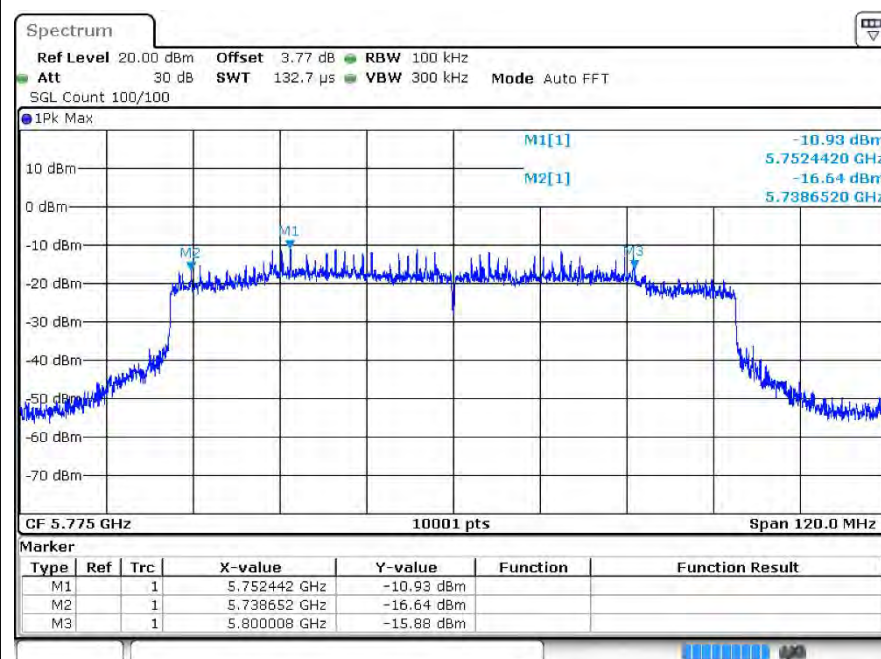
-6dB Bandwidth ax40 5755MHz Ant0



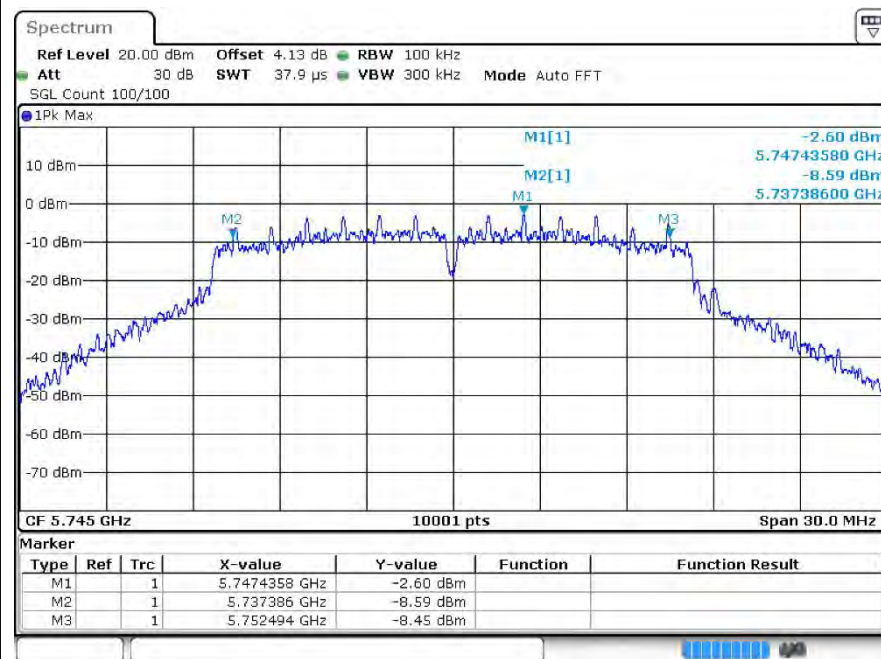
-6dB Bandwidth ax40 5795MHz Ant0



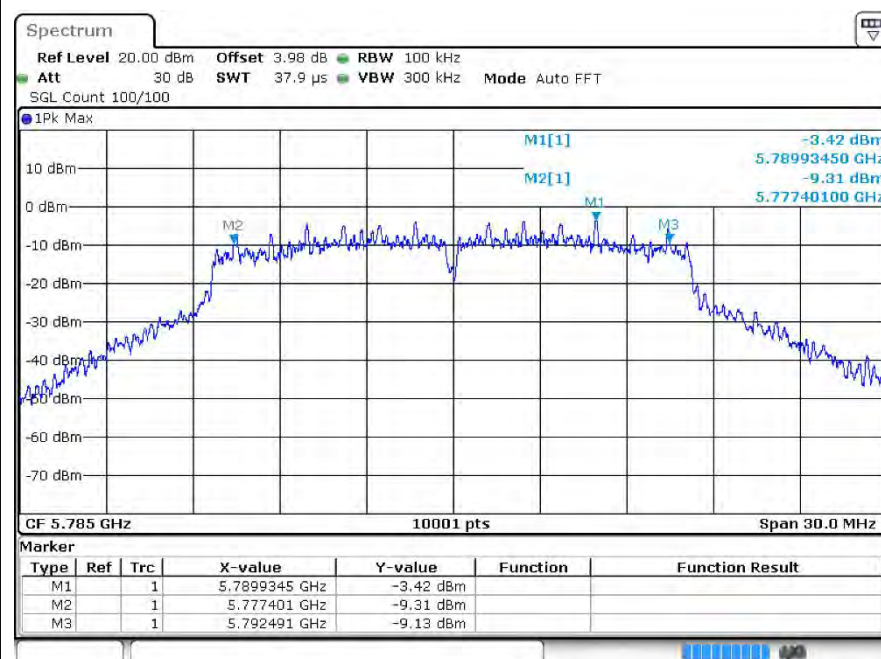
-6dB Bandwidth ax80 5775MHz Ant0



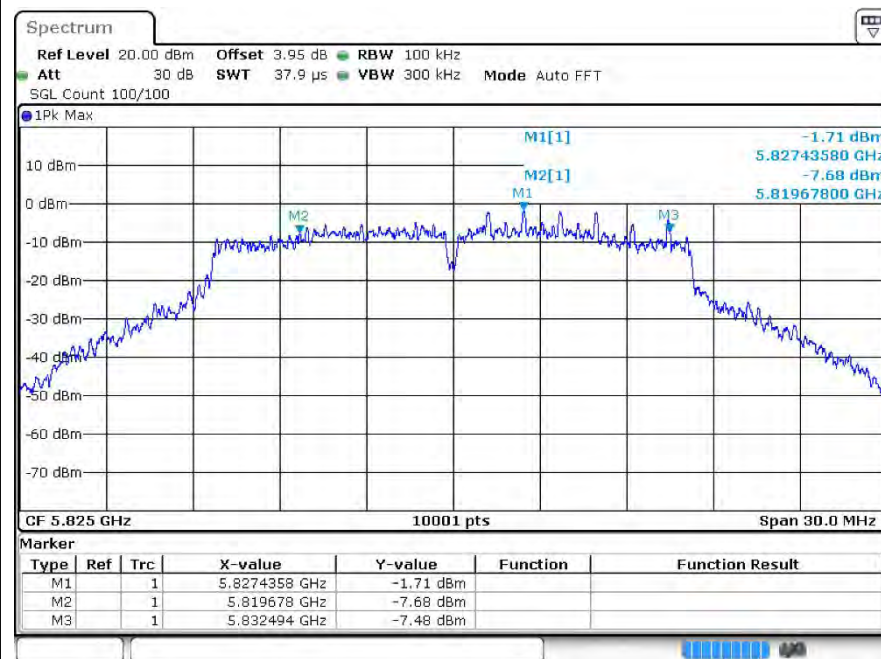
-6dB Bandwidth a 5745MHz Ant1



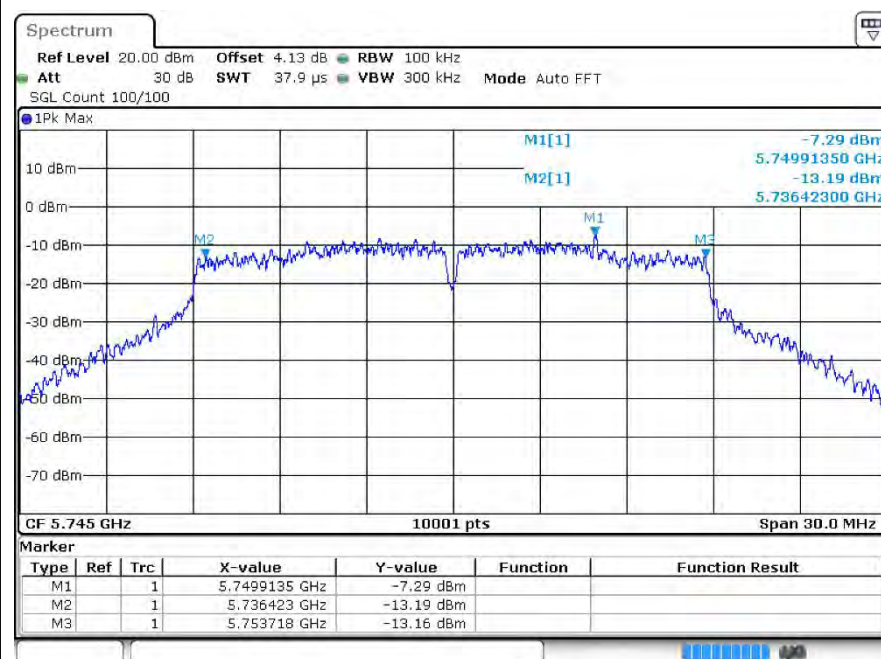
-6dB Bandwidth a 5785MHz Ant1



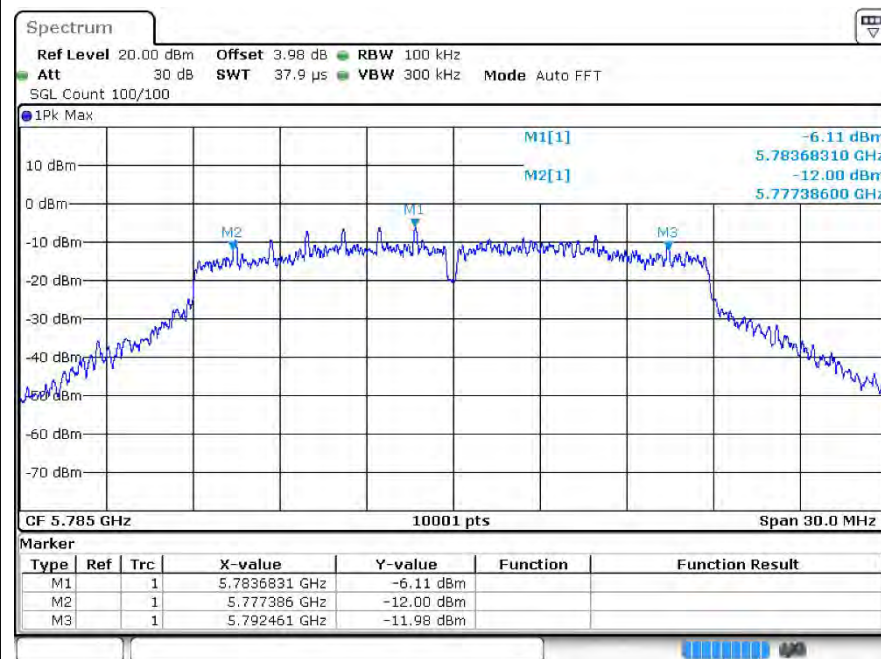
-6dB Bandwidth a 5825MHz Ant1



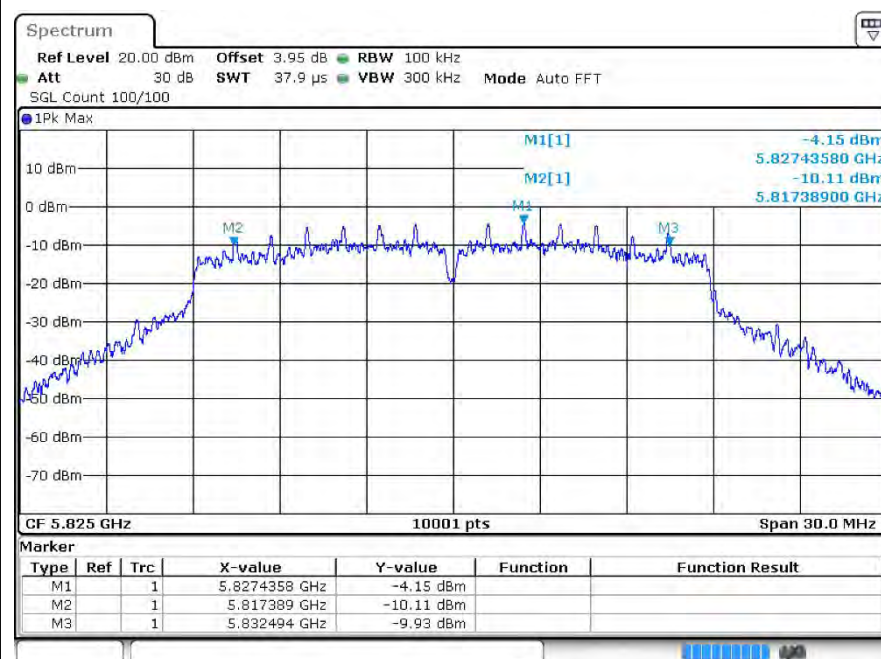
-6dB Bandwidth n20 5745MHz Ant1



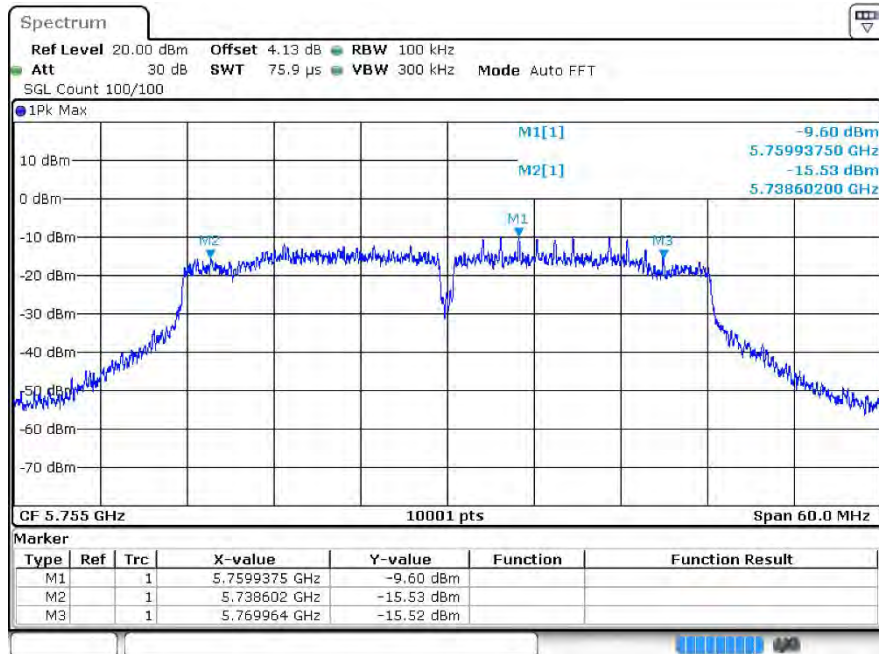
-6dB Bandwidth n20 5785MHz Ant1



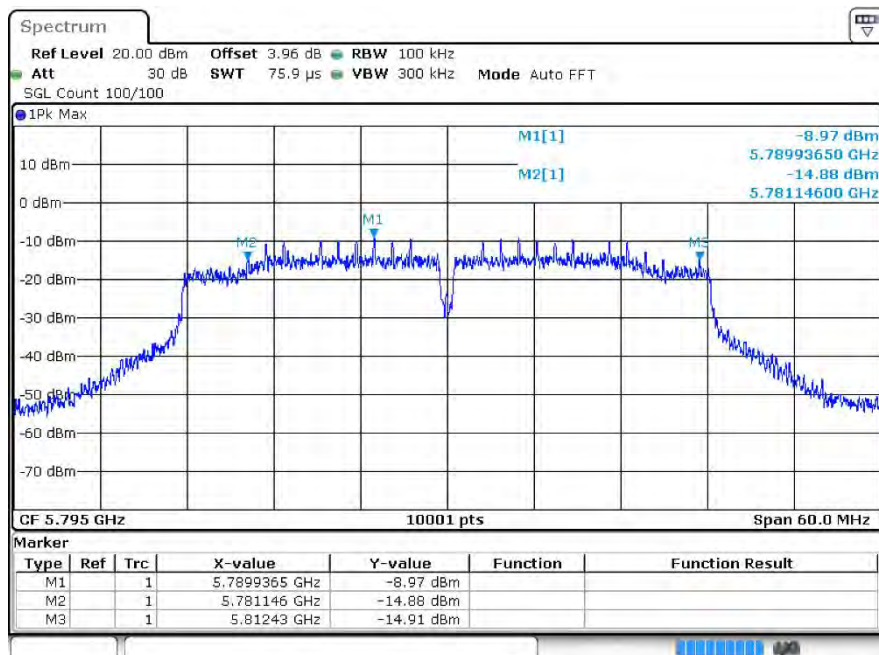
-6dB Bandwidth n20 5825MHz Ant1



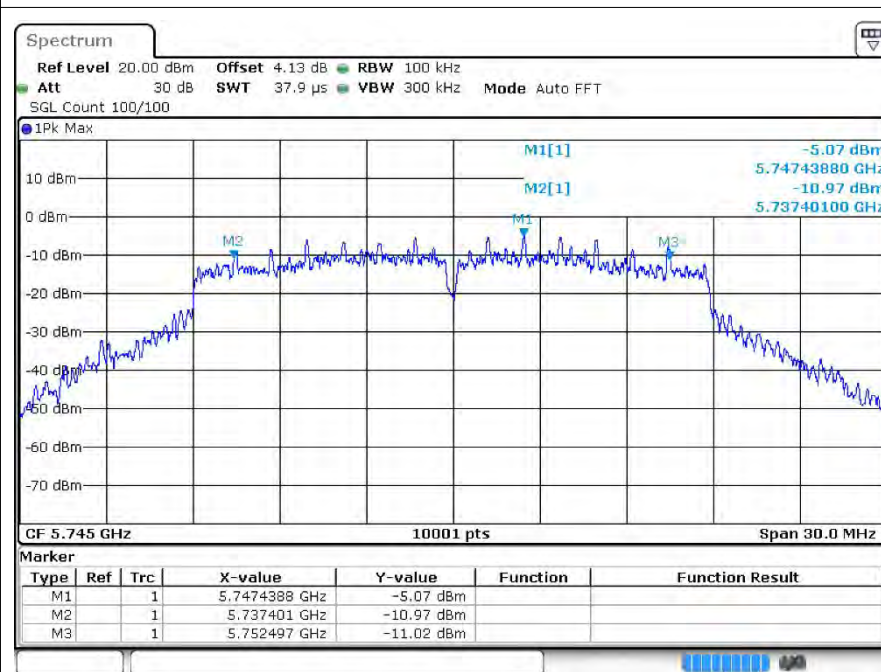
-6dB Bandwidth n40 5755MHz Ant1



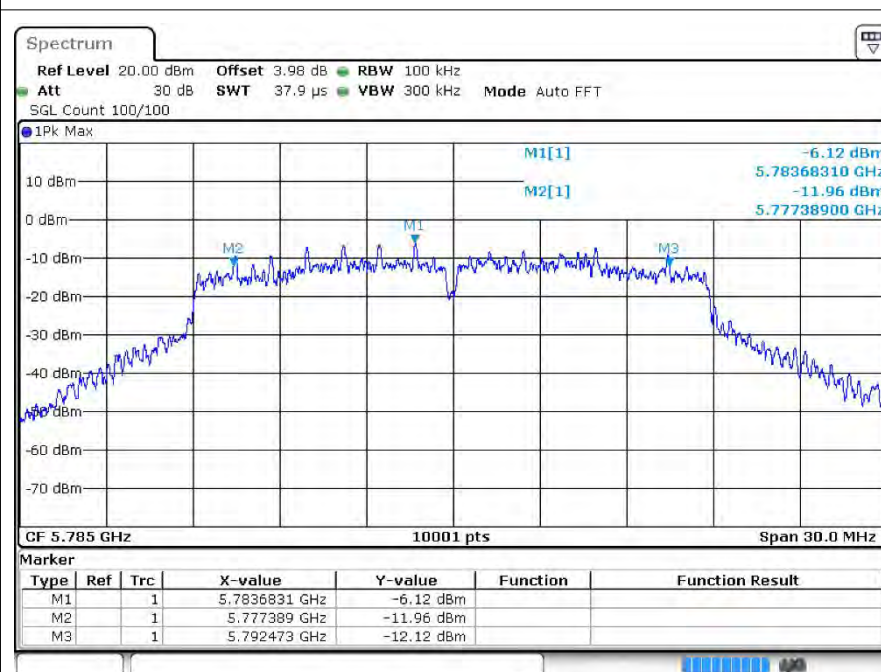
-6dB Bandwidth n40 5795MHz Ant1



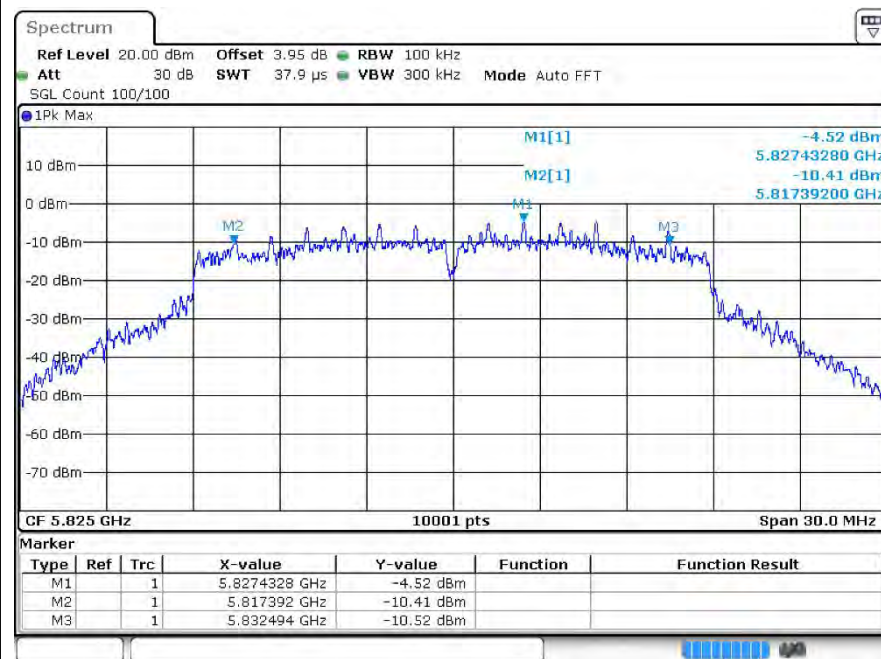
-6dB Bandwidth ac20 5745MHz Ant1



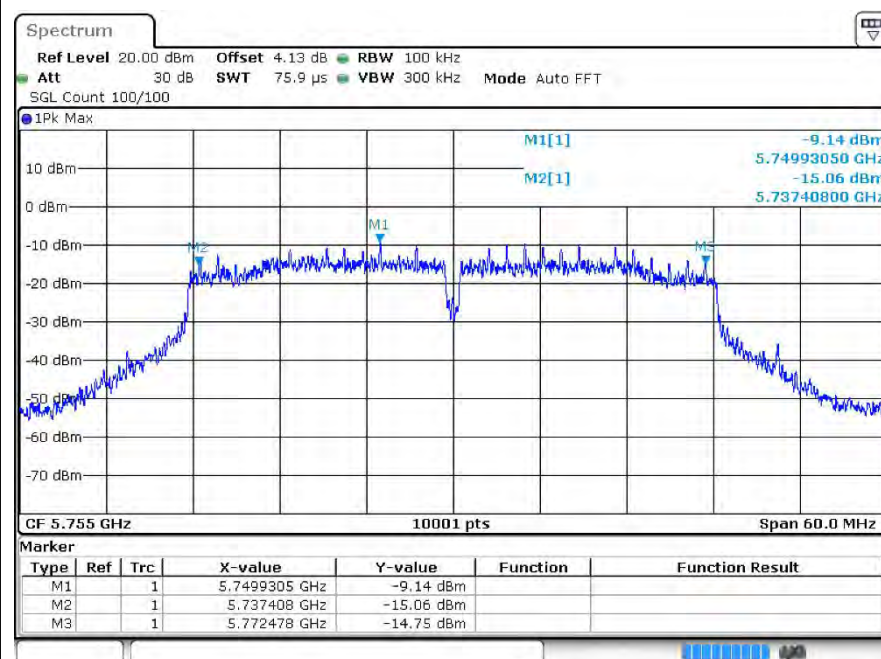
-6dB Bandwidth ac20 5785MHz Ant1



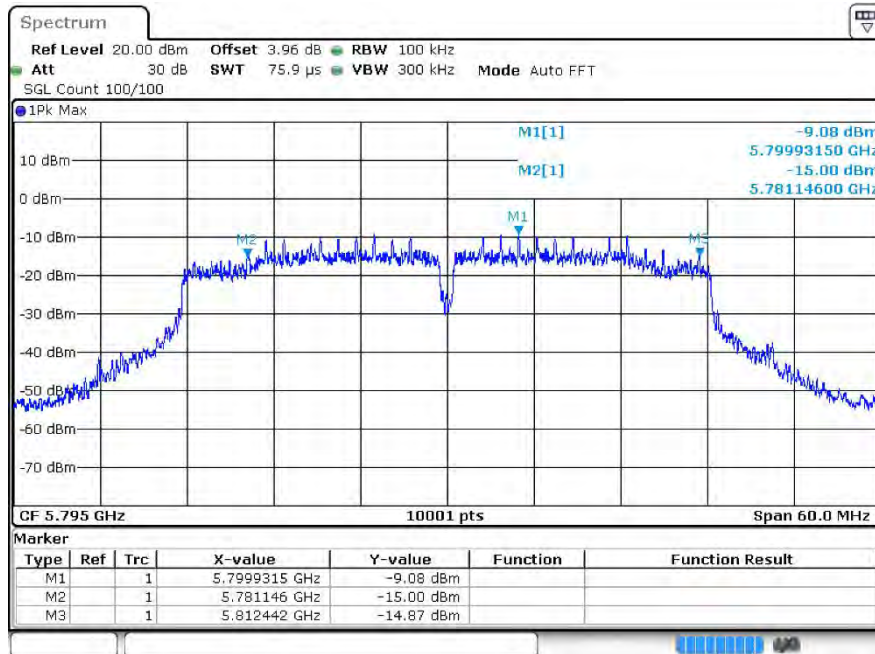
-6dB Bandwidth ac20 5825MHz Ant1



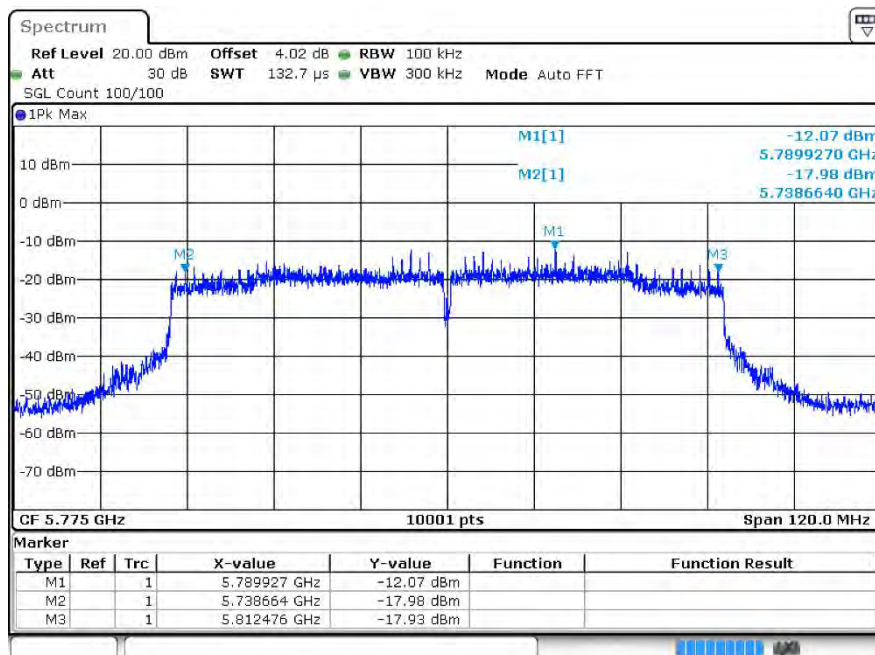
-6dB Bandwidth ac40 5755MHz Ant1



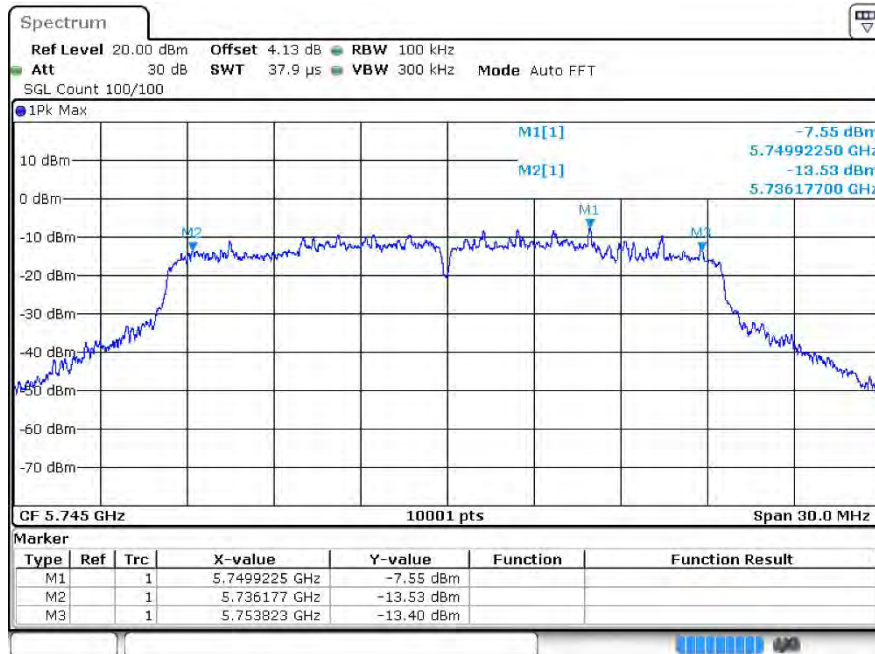
-6dB Bandwidth ac40 5795MHz Ant1



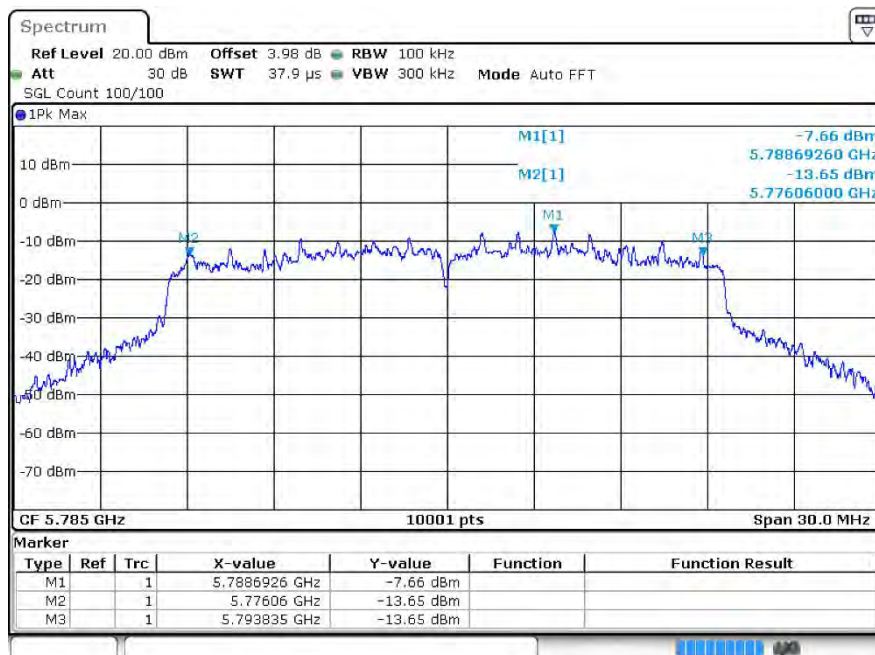
-6dB Bandwidth ac80 5775MHz Ant1



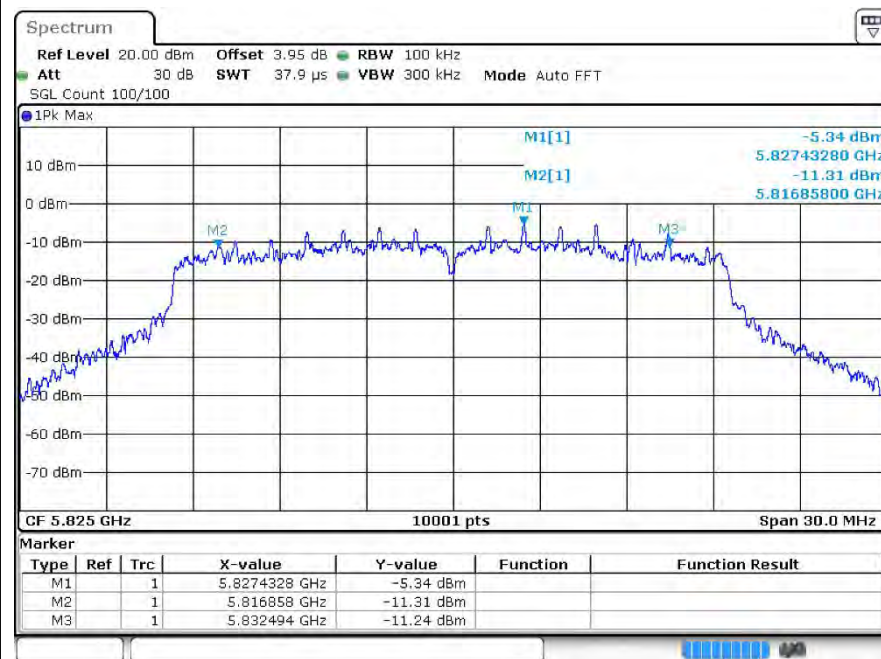
-6dB Bandwidth ax20 5745MHz Ant1



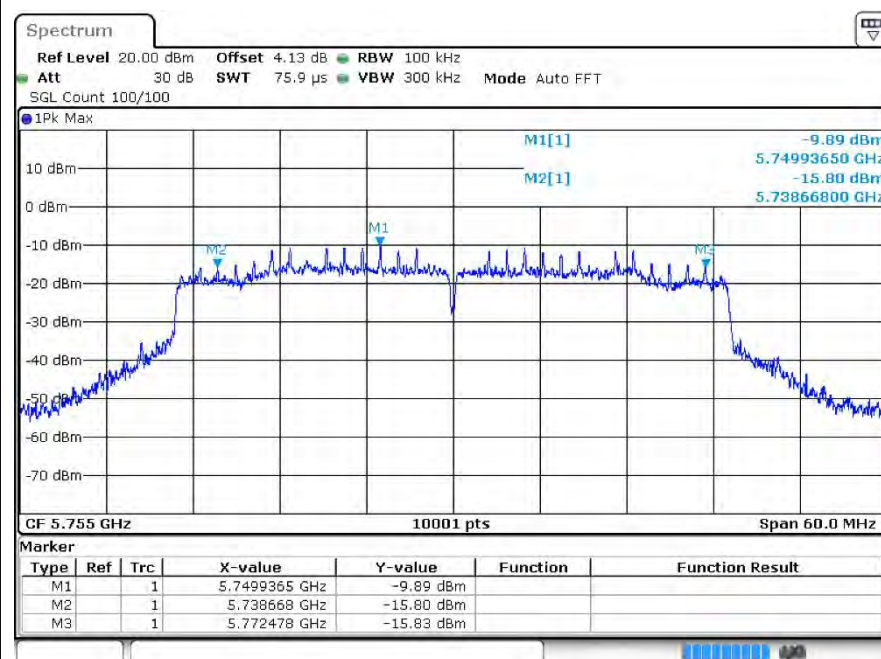
-6dB Bandwidth ax20 5785MHz Ant1



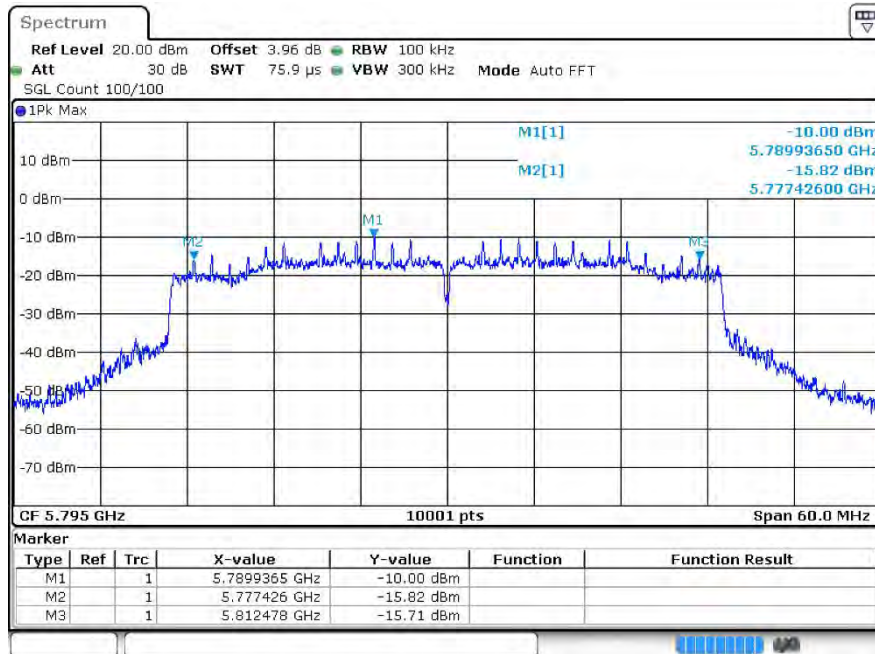
-6dB Bandwidth ax20 5825MHz Ant1



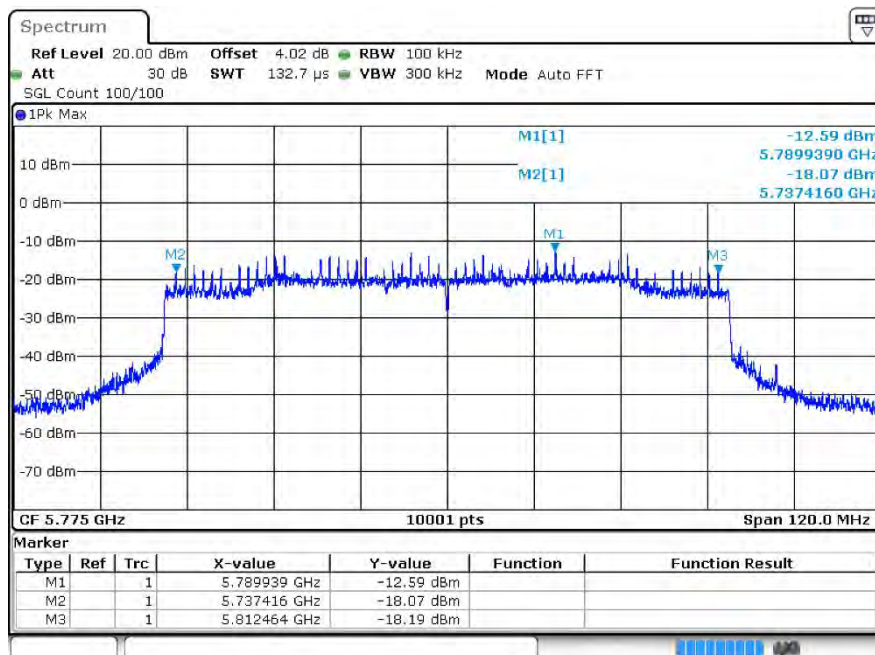
-6dB Bandwidth ax40 5755MHz Ant1



-6dB Bandwidth ax40 5795MHz Ant1



-6dB Bandwidth ax80 5775MHz Ant1





4 Occupied Channel Bandwidth

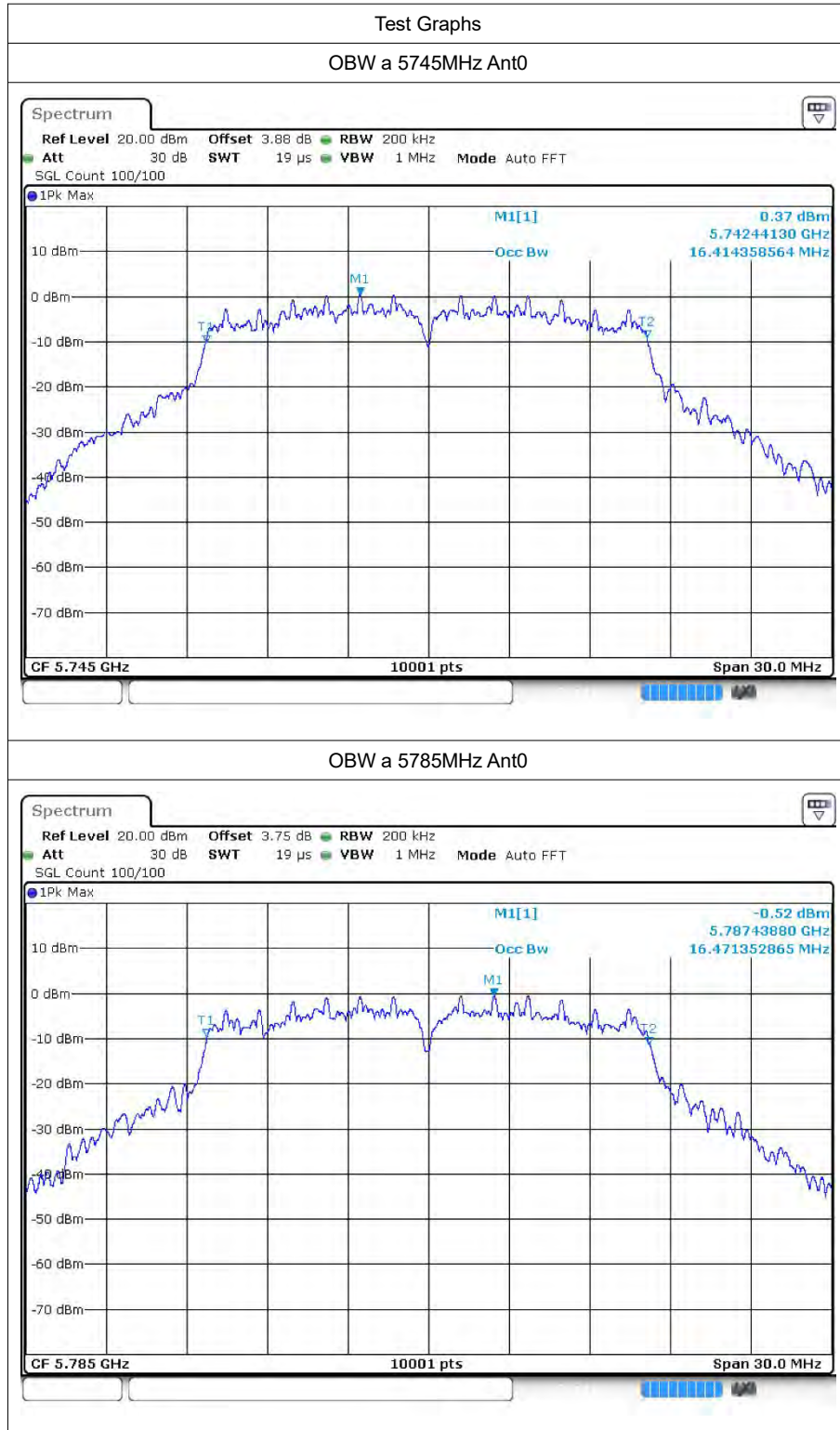
4.1 Test Result

Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
a	5745	Ant0	16.414
a	5785	Ant0	16.471
a	5825	Ant0	16.435
n20	5745	Ant0	17.572
n20	5785	Ant0	17.599
n20	5825	Ant0	17.59
n40	5755	Ant0	36.086
n40	5795	Ant0	35.99
ac20	5745	Ant0	17.608
ac20	5785	Ant0	17.662
ac20	5825	Ant0	17.59
ac40	5755	Ant0	35.966
ac40	5795	Ant0	36.146
ac80	5775	Ant0	75.136
ax20	5745	Ant0	18.778
ax20	5785	Ant0	18.847
ax20	5825	Ant0	18.895
ax40	5755	Ant0	37.496
ax40	5795	Ant0	37.514
ax80	5775	Ant0	76.816
a	5745	Ant1	16.381
a	5785	Ant1	16.393
a	5825	Ant1	16.564
n20	5745	Ant1	17.569
n20	5785	Ant1	17.644
n20	5825	Ant1	17.56
n40	5755	Ant1	36.014
n40	5795	Ant1	35.912
ac20	5745	Ant1	17.62
ac20	5785	Ant1	17.572
ac20	5825	Ant1	17.647
ac40	5755	Ant1	35.816
ac40	5795	Ant1	35.906
ac80	5775	Ant1	75.316
ax20	5745	Ant1	18.841
ax20	5785	Ant1	18.862



ax20	5825	Ant1	18.796
ax40	5755	Ant1	37.736
ax40	5795	Ant1	37.412
ax80	5775	Ant1	77.008

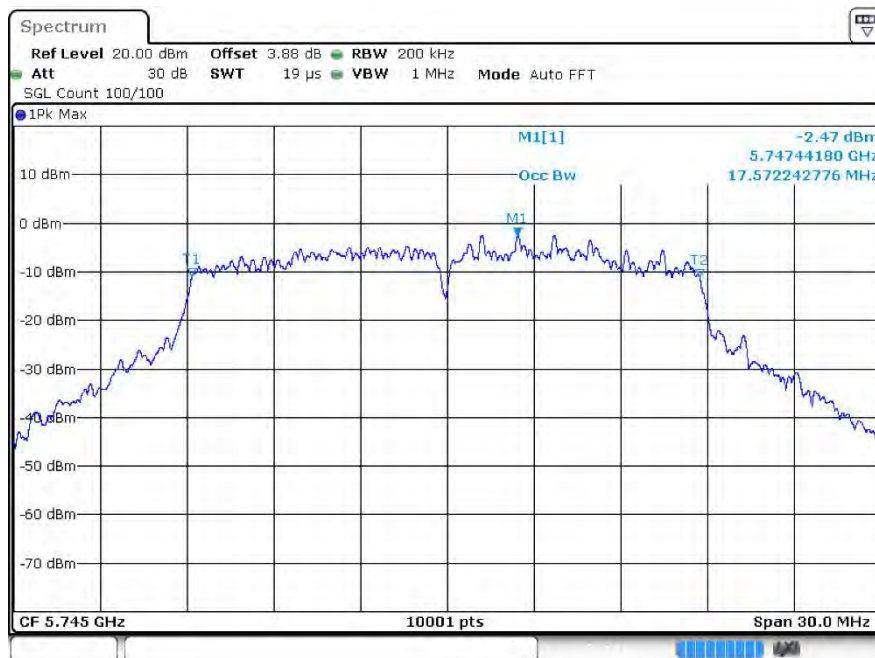
4.2 Test Graphs



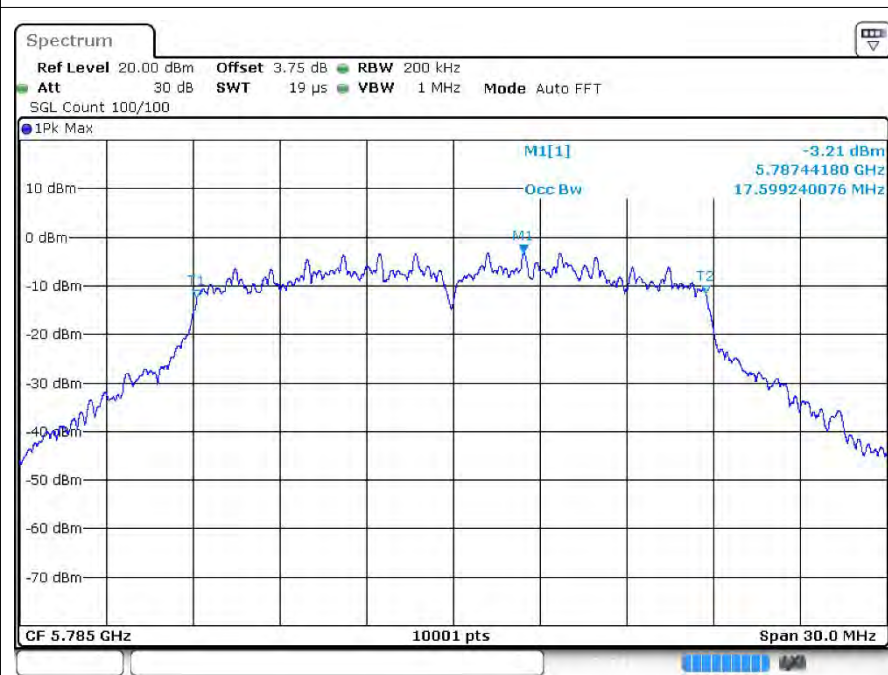
OBW a 5825MHz Ant0



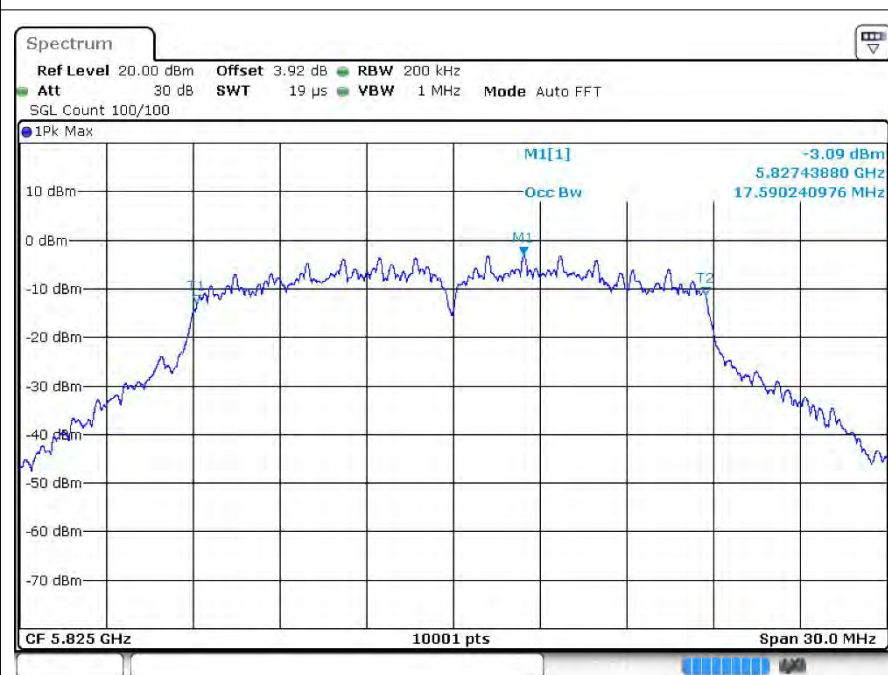
OBW n20 5745MHz Ant0



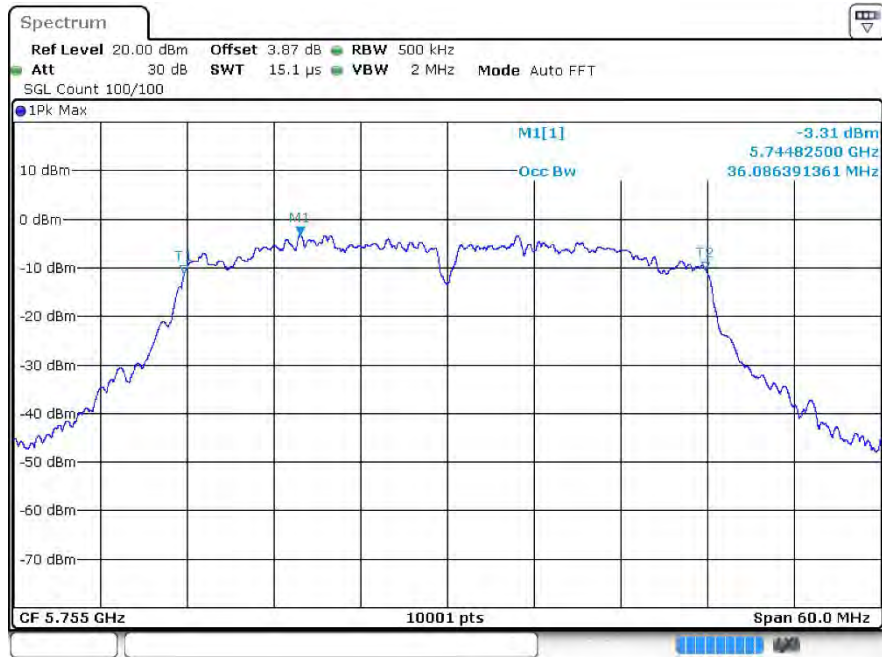
OBW n20 5785MHz Ant0



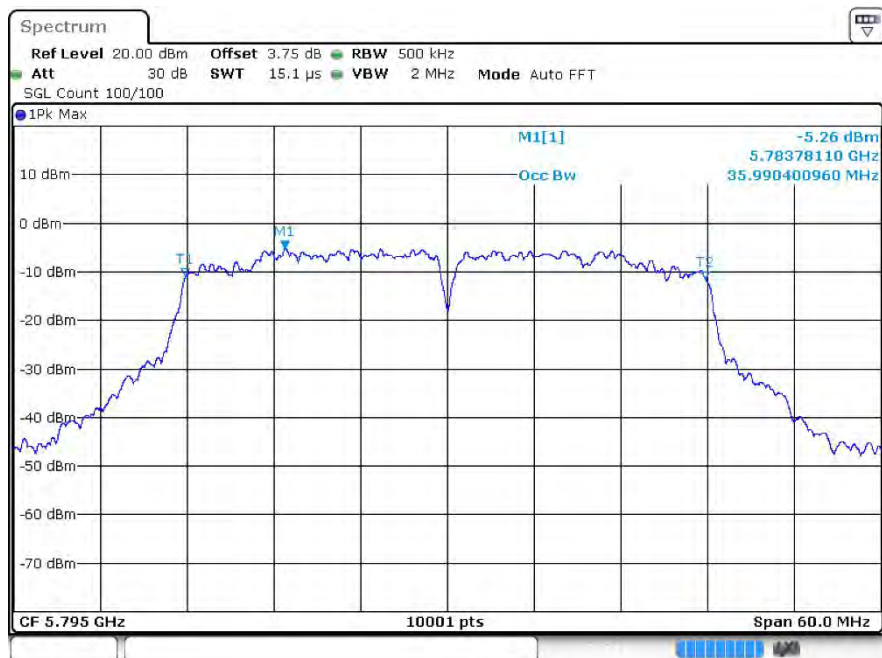
OBW n20 5825MHz Ant0



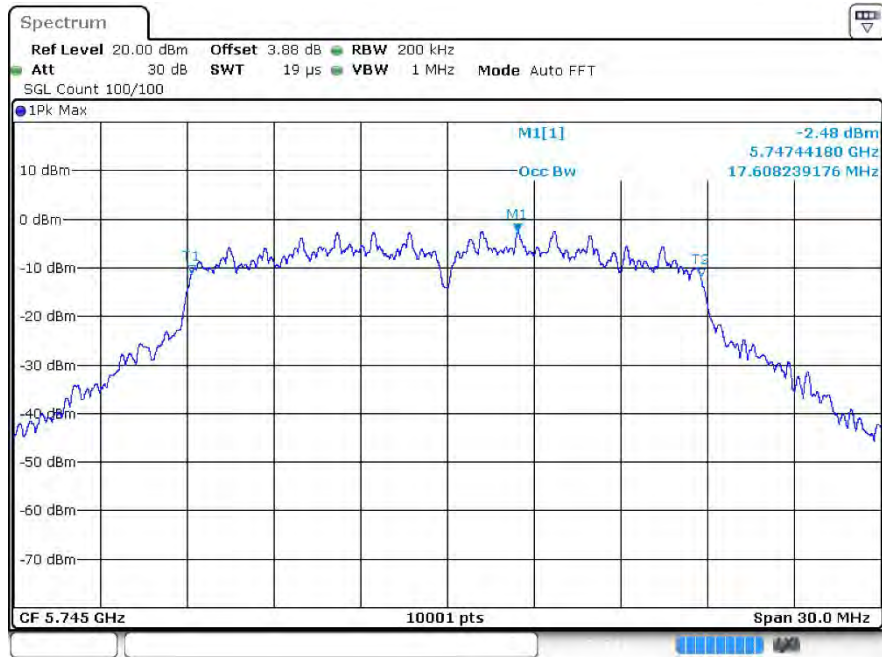
OBW n40 5755MHz Ant0



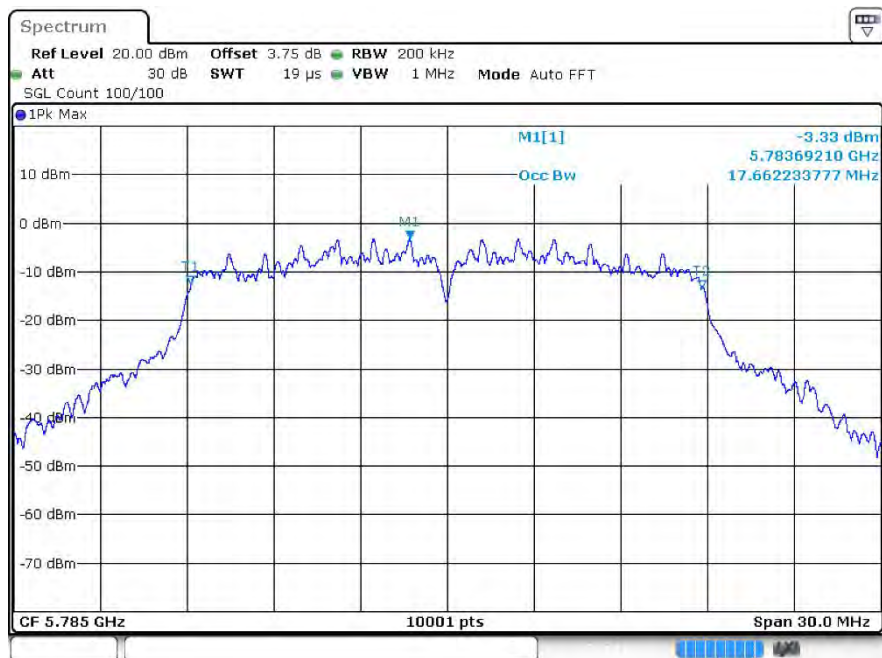
OBW n40 5795MHz Ant0



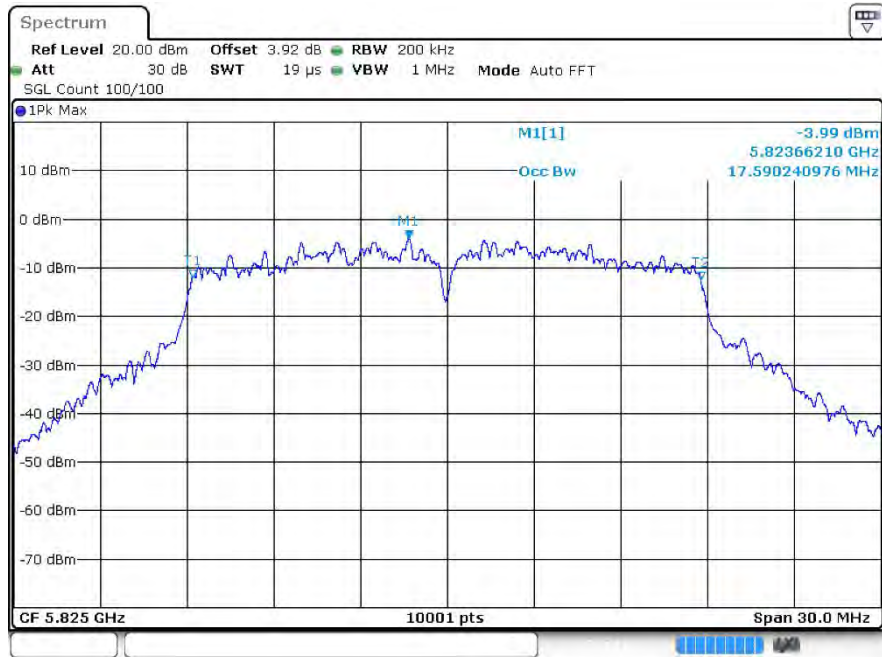
OBW ac20 5745MHz Ant0



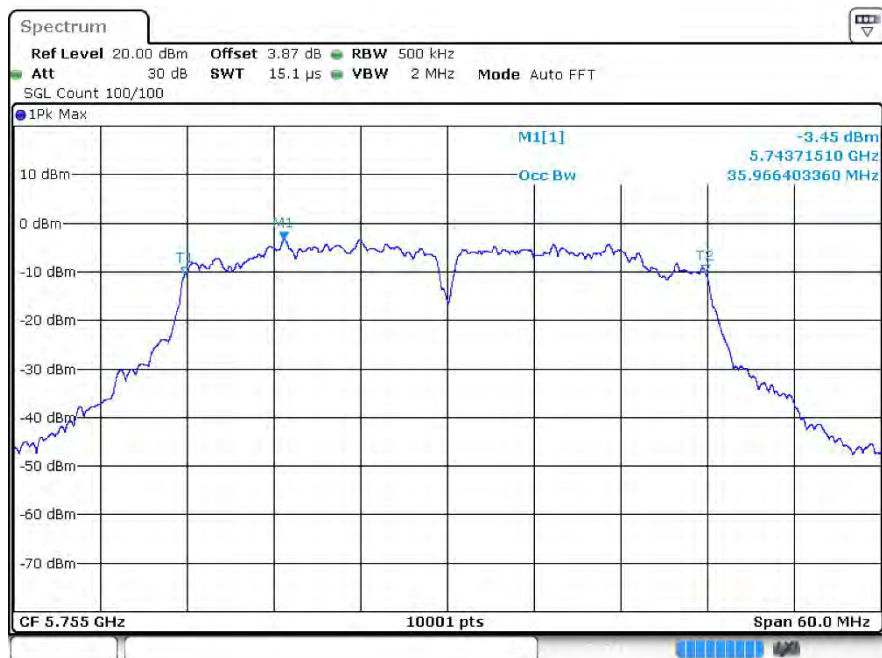
OBW ac20 5785MHz Ant0



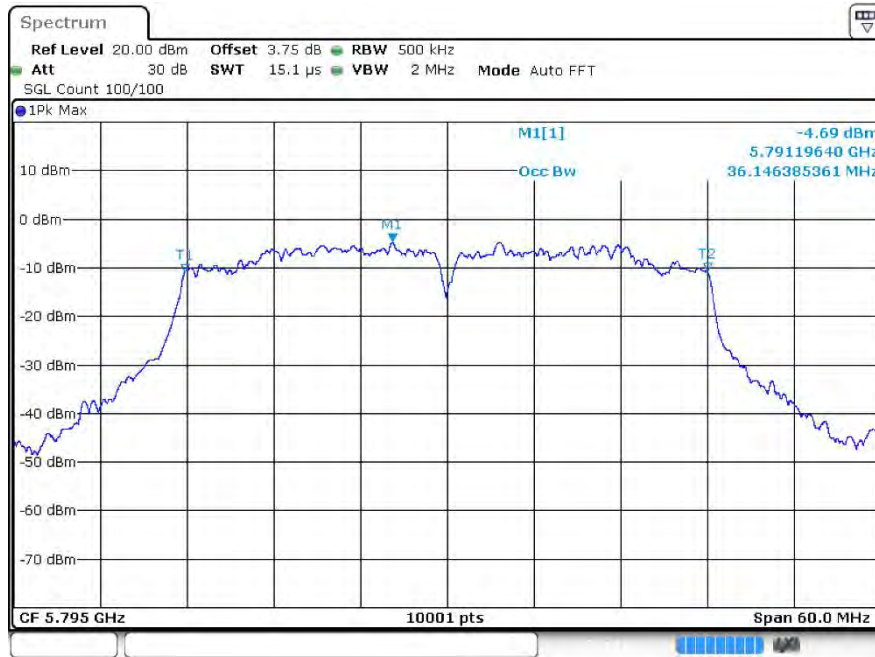
OBW ac20 5825MHz Ant0



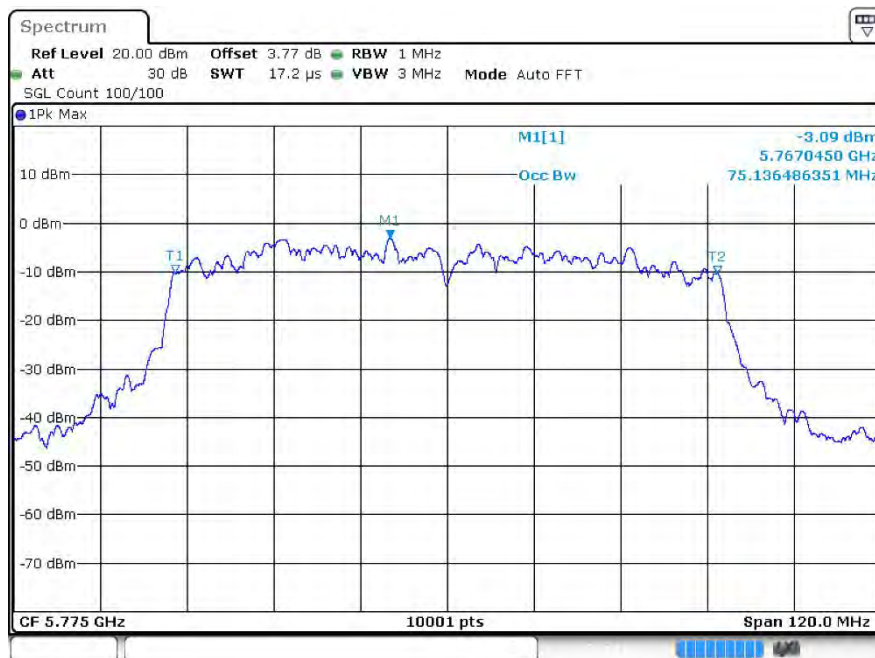
OBW ac40 5755MHz Ant0



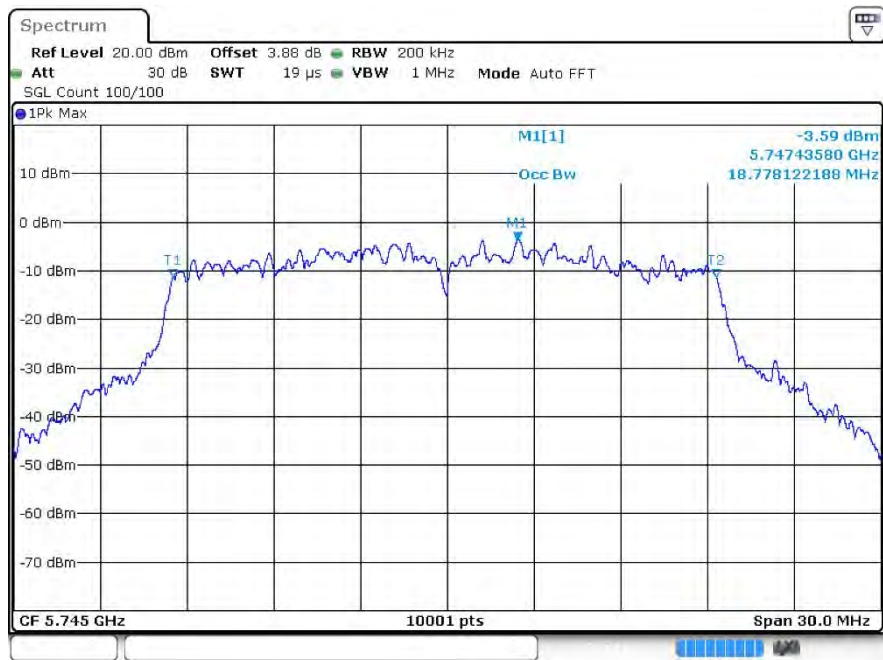
OBW ac40 5795MHz Ant0



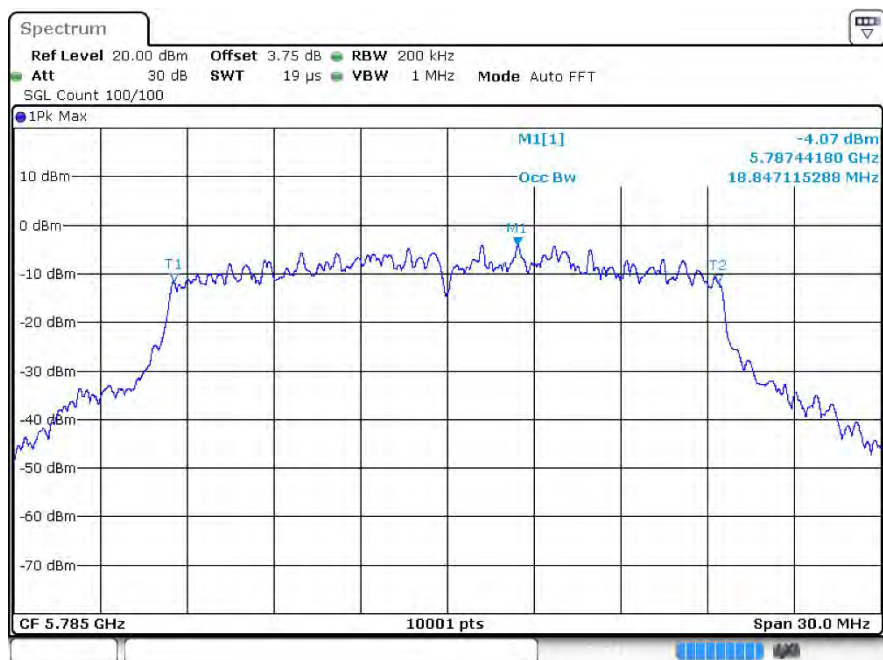
OBW ac80 5775MHz Ant0



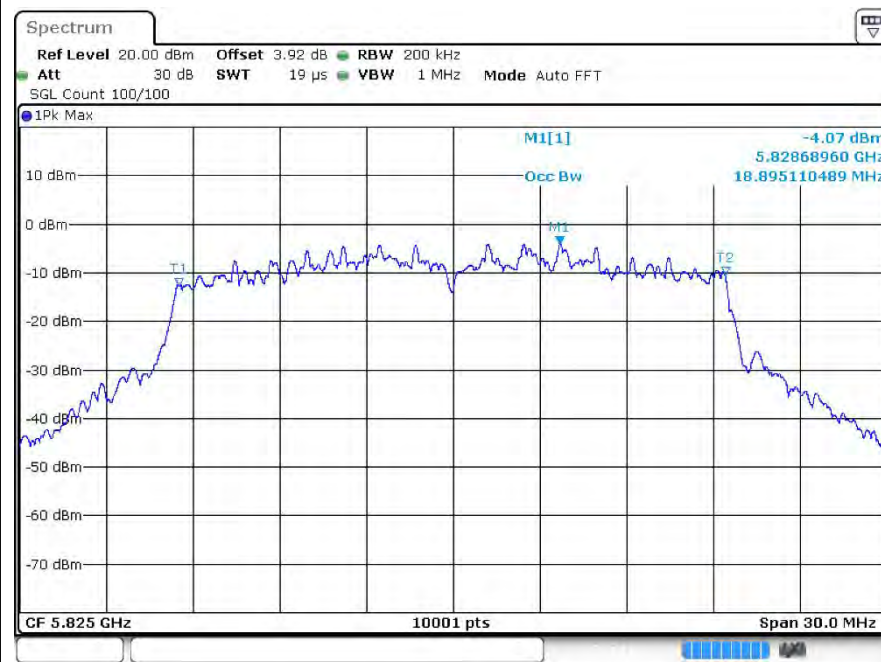
OBW ax20 5745MHz Ant0



OBW ax20 5785MHz Ant0



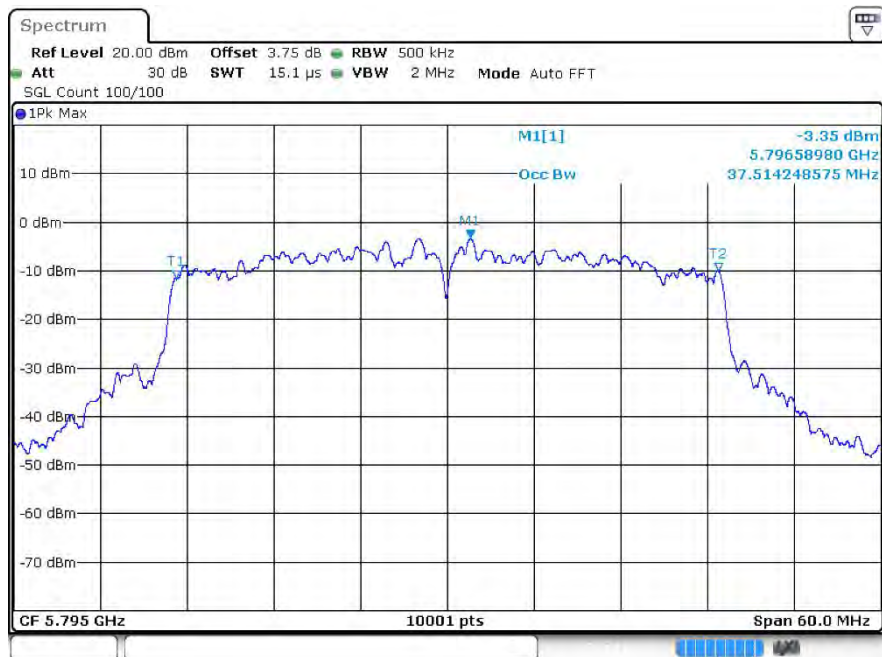
OBW ax20 5825MHz Ant0



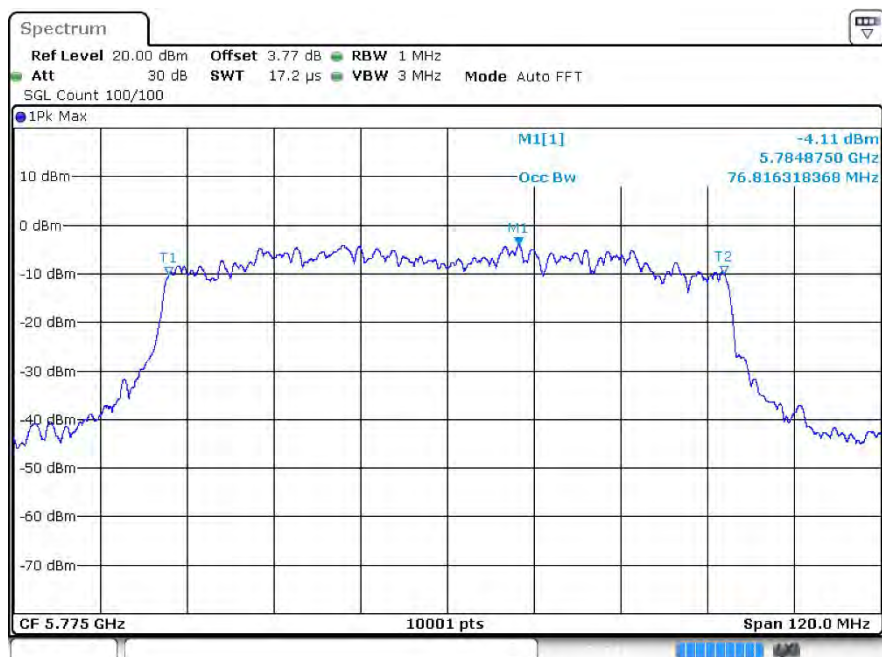
OBW ax40 5755MHz Ant0



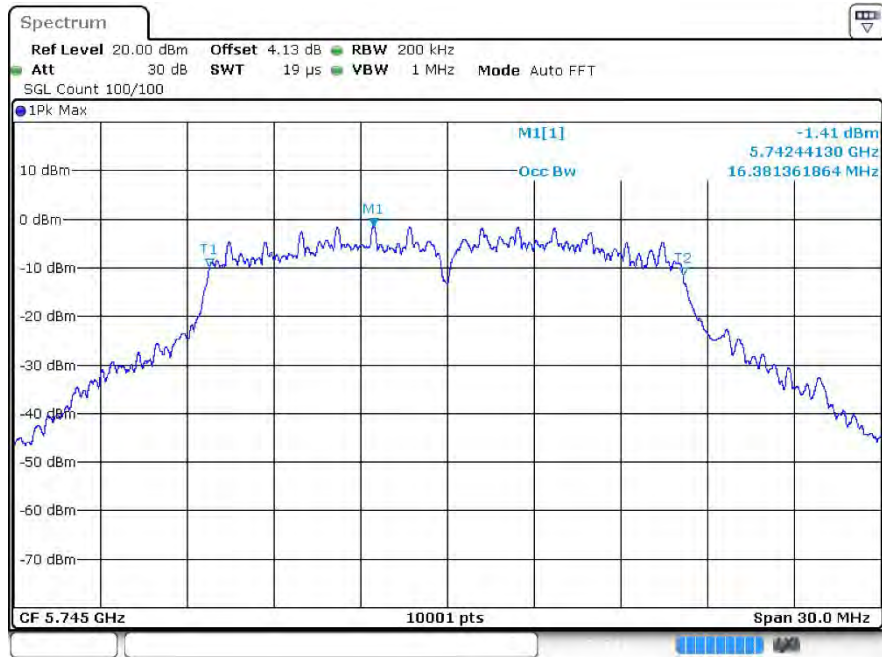
OBW ax40 5795MHz Ant0



OBW ax80 5775MHz Ant0



OBW a 5745MHz Ant1



OBW a 5785MHz Ant1

