



Appendix E

RF Test Data for 5.8GWIFI(Conducted Measurement)

Product Name: FDM 3D Printer

Trade Mark: ELEGOO

Test Model: Centauri Carbon

Environmental Conditions

Temperature:	25.6° C
Relative Humidity:	52.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Emiya lin
Supervised by:	Simba Haung



Contents

Page

COVER PAGE

1	Duty Cycle	3
1.1	Test Result	3
1.2	Test Graphs	4
2	Maximum Conducted Output Power	11
2.1	Test Result	11
3	-6dB Bandwidth	12
3.1	Test Result	12
3.2	Test Graphs	13
4	Occupied Channel Bandwidth	20
4.1	Test Result	20
4.2	Test Graphs	21
5	Maximum Power Spectral Density Level	28
5.1	Test Result	28
5.2	Test Graphs	29
6	Frequency Stability	36
6.1	Test Result	36
7	Conducted RF Spurious Emission	40
7.1	Test Result	40
7.2	Test Graphs	41
8	Restrict Band	48
8.1	Test Result	48
8.2	Test Graphs	51



1 Duty Cycle

1.1 Test Result

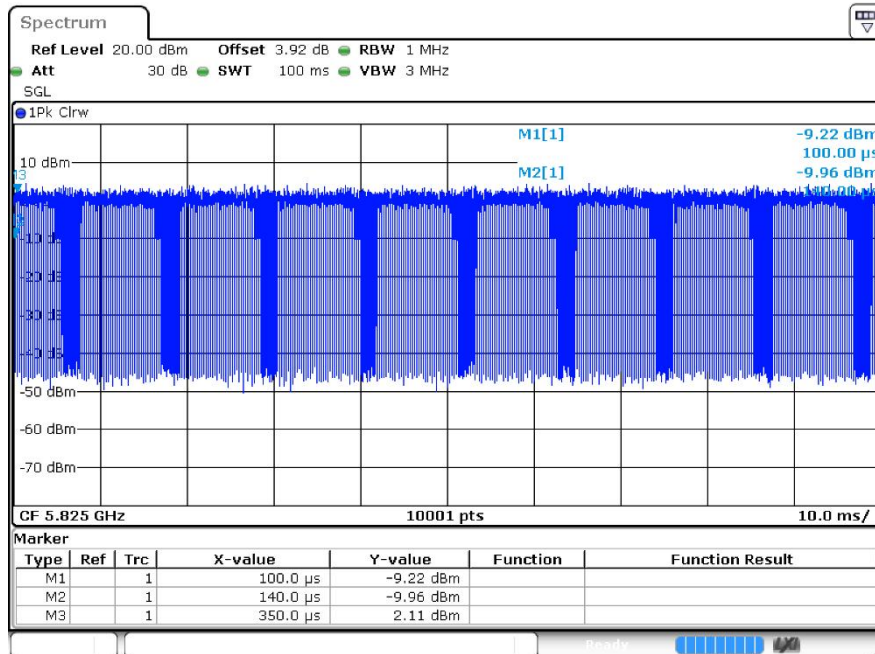
Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5745	Ant1	86.93	0.61	4.76
a	5785	Ant1	86.85	0.61	4.76
a	5825	Ant1	86.88	0.61	4.76
n20	5745	Ant1	87.61	0.57	4.17
n20	5785	Ant1	87.6	0.57	4.35
n20	5825	Ant1	87.56	0.58	4.35
n40	5755	Ant1	88.06	0.55	4.17
n40	5795	Ant1	88.03	0.55	4.17
ac20	5745	Ant1	87.17	0.6	4.55
ac20	5785	Ant1	87.21	0.59	4.55
ac20	5825	Ant1	87.23	0.59	4.55
ac40	5755	Ant1	87.22	0.59	4.55
ac40	5795	Ant1	85.98	0.66	4.55
ac80	5775	Ant1	87.33	0.59	4.35



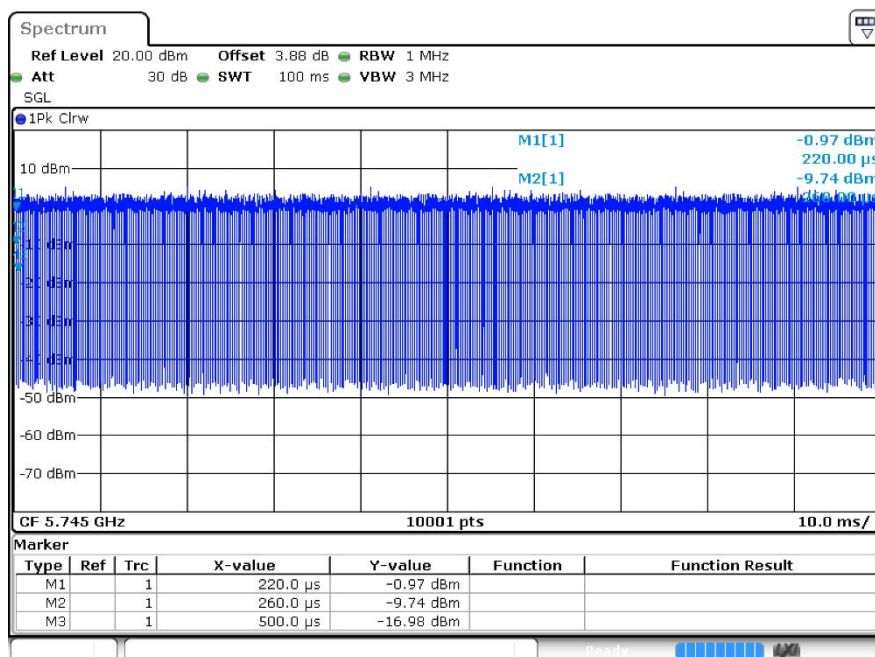
1.2 Test Graphs



Duty Cycle a 5825MHz Ant1



Duty Cycle n20 5745MHz Ant1

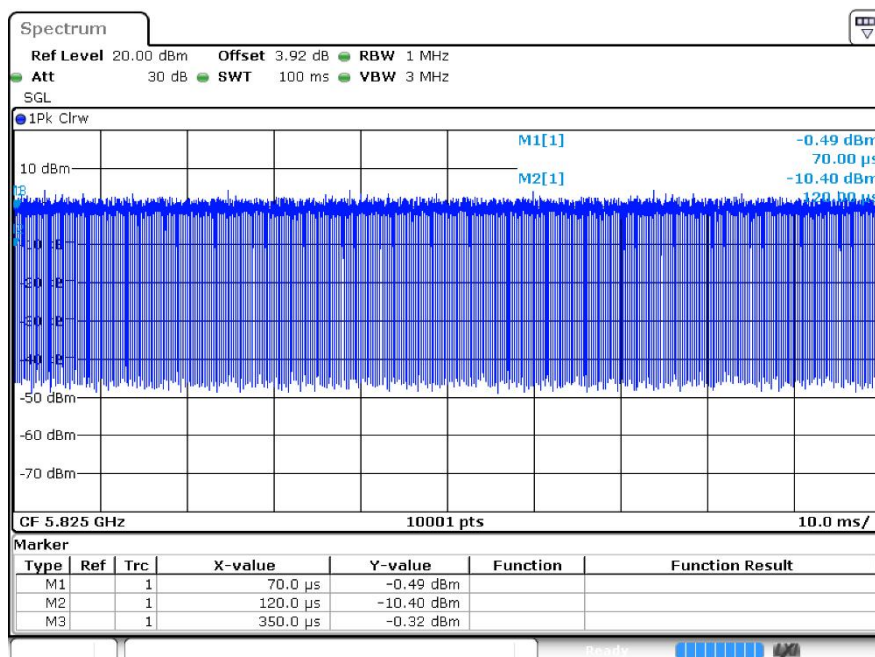




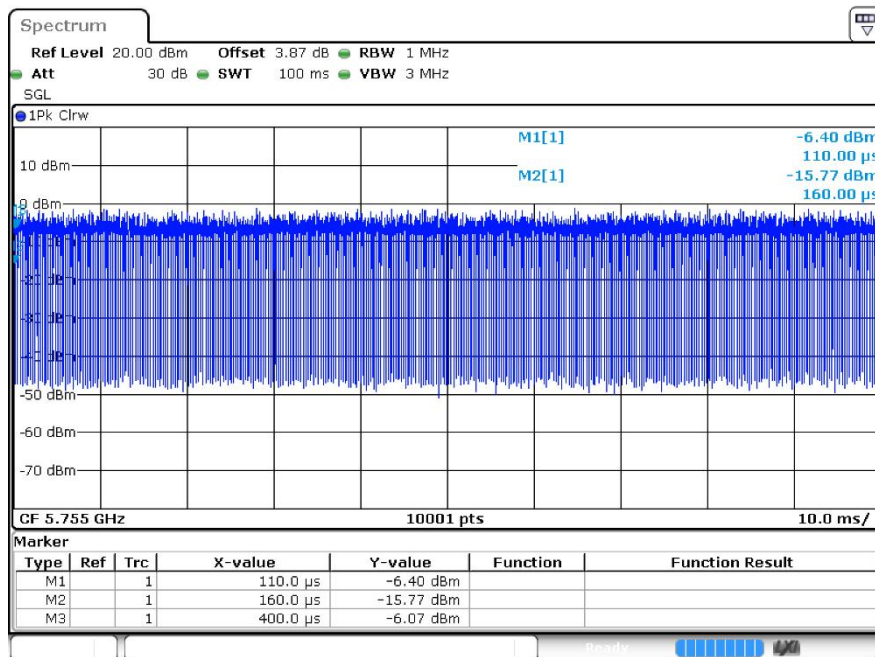
Duty Cycle n20 5785MHz Ant1



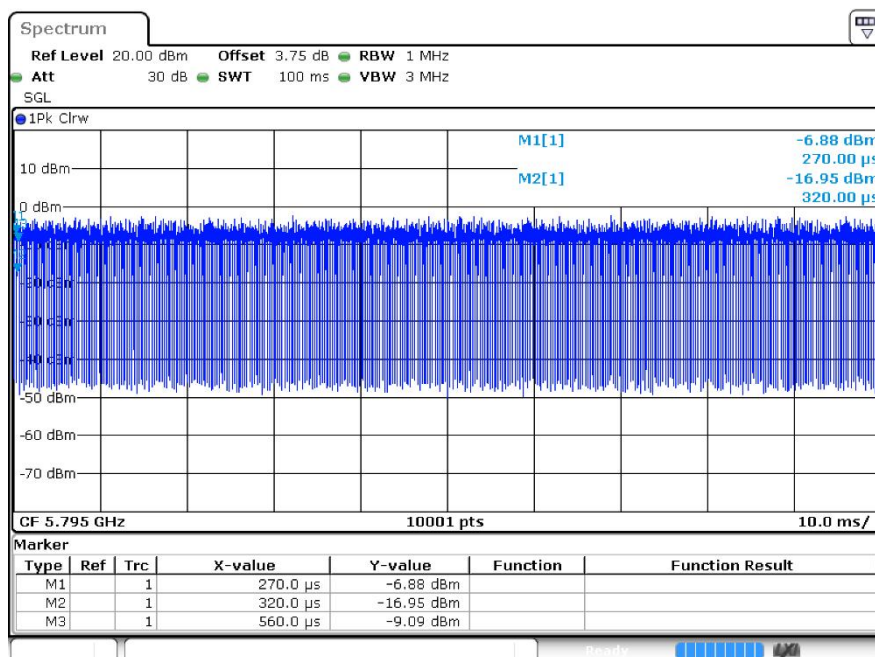
Duty Cycle n20 5825MHz Ant1



Duty Cycle n40 5755MHz Ant1



Duty Cycle n40 5795MHz Ant1

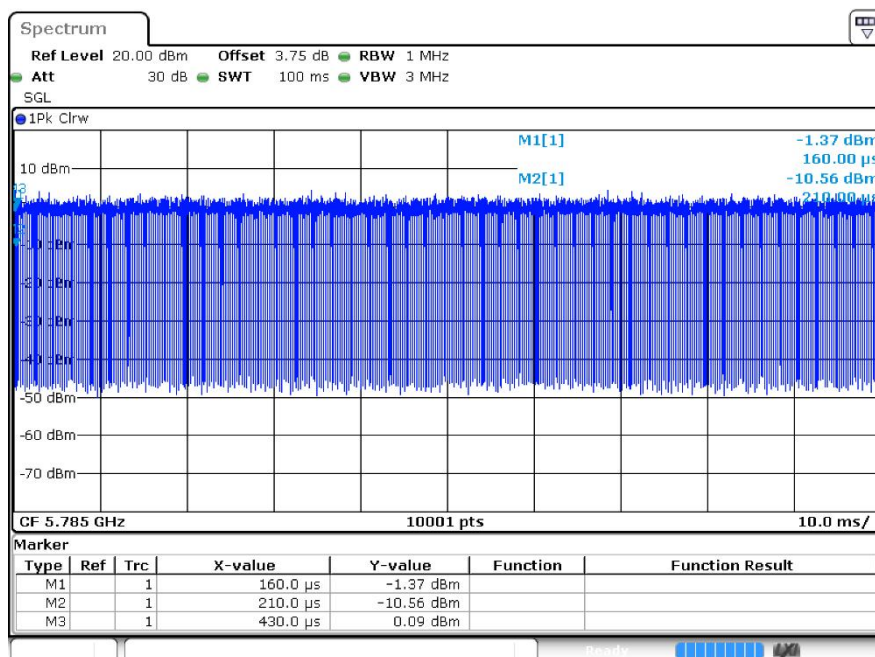




Duty Cycle ac20 5745MHz Ant1



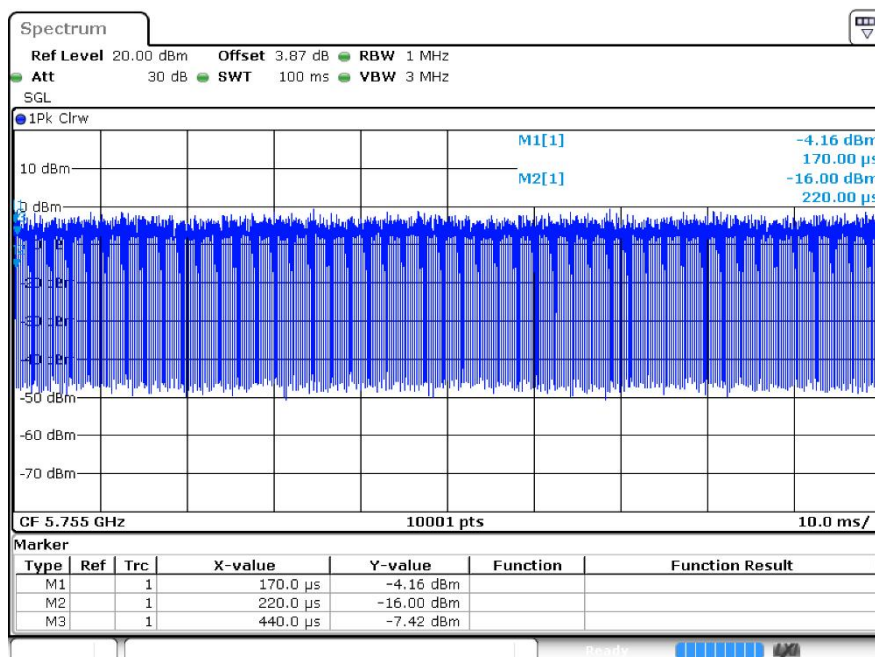
Duty Cycle ac20 5785MHz Ant1



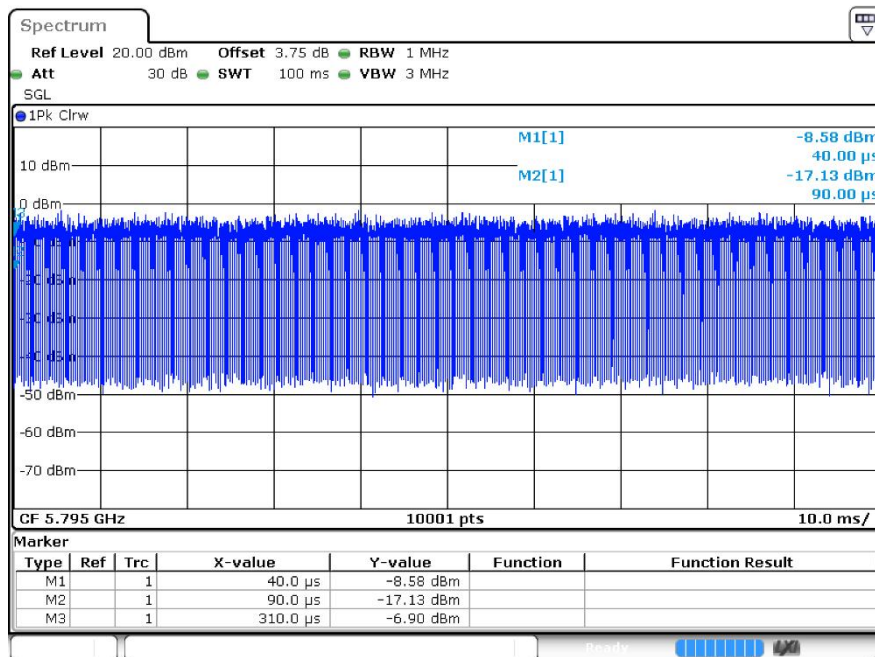
Duty Cycle ac20 5825MHz Ant1



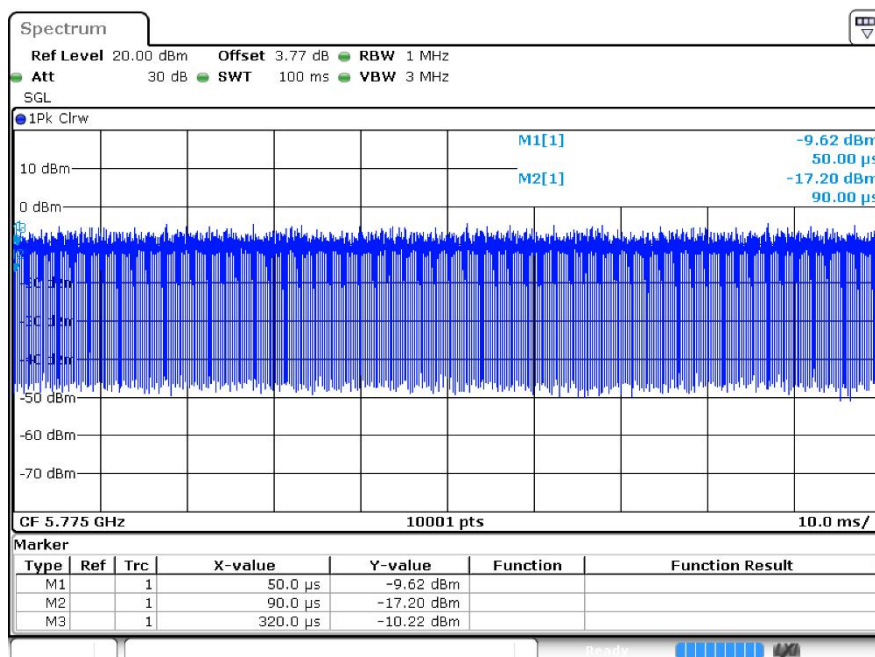
Duty Cycle ac40 5755MHz Ant1



Duty Cycle ac40 5795MHz Ant1



Duty Cycle ac80 5775MHz Ant1





2 Maximum Conducted Output Power

2.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
a	5745	Ant1	11.76	30	Pass
a	5785	Ant1	10.91	30	Pass
a	5825	Ant1	10.88	30	Pass
n20	5745	Ant1	11.21	30	Pass
n20	5785	Ant1	10.27	30	Pass
n20	5825	Ant1	10.34	30	Pass
n40	5755	Ant1	10.84	30	Pass
n40	5795	Ant1	9.82	30	Pass
ac20	5745	Ant1	11.17	30	Pass
ac20	5785	Ant1	10.25	30	Pass
ac20	5825	Ant1	10.25	30	Pass
ac40	5755	Ant1	10.73	30	Pass
ac40	5795	Ant1	9.89	30	Pass
ac80	5775	Ant1	10.6	30	Pass

Note:

The duty factor has been compensated into the result.

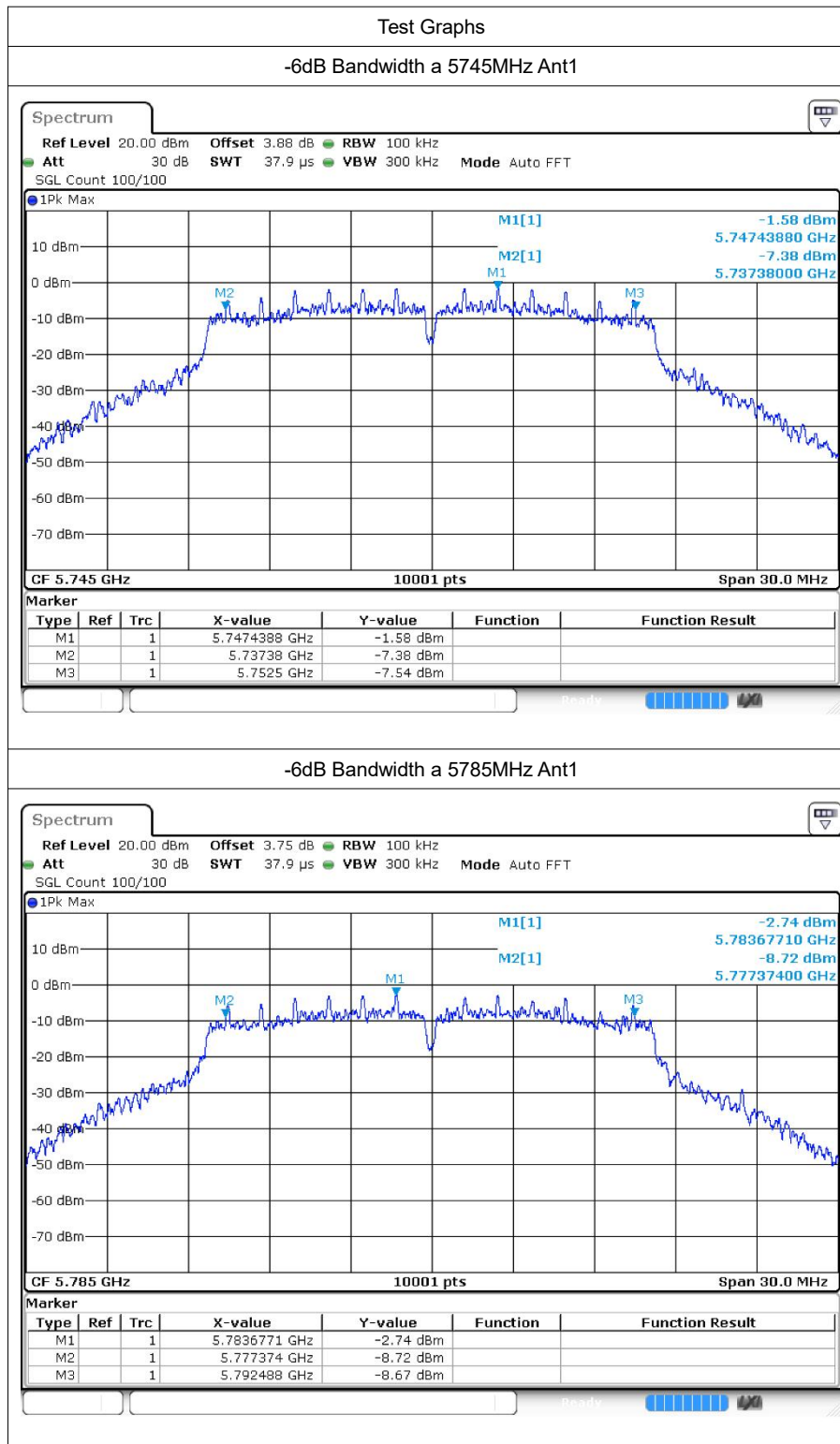


3 -6dB Bandwidth

3.1 Test Result

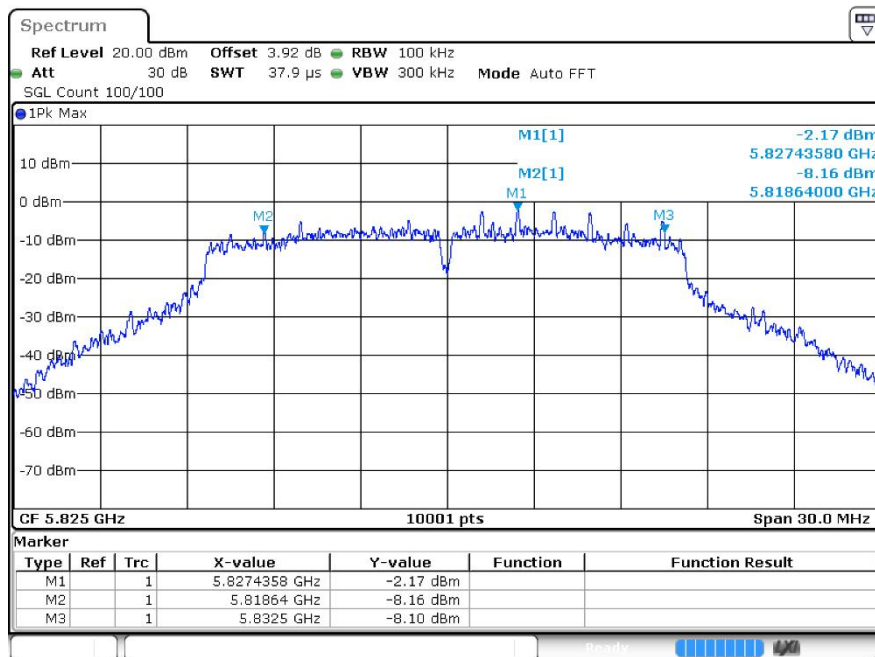
Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
a	5745	Ant1	15.12	0.5	Pass
a	5785	Ant1	15.114	0.5	Pass
a	5825	Ant1	13.86	0.5	Pass
n20	5745	Ant1	15.111	0.5	Pass
n20	5785	Ant1	15.111	0.5	Pass
n20	5825	Ant1	15.111	0.5	Pass
n40	5755	Ant1	35.004	0.5	Pass
n40	5795	Ant1	33.834	0.5	Pass
ac20	5745	Ant1	15.054	0.5	Pass
ac20	5785	Ant1	15.114	0.5	Pass
ac20	5825	Ant1	15.108	0.5	Pass
ac40	5755	Ant1	33.822	0.5	Pass
ac40	5795	Ant1	35.04	0.5	Pass
ac80	5775	Ant1	75.036	0.5	Pass

3.2 Test Graphs

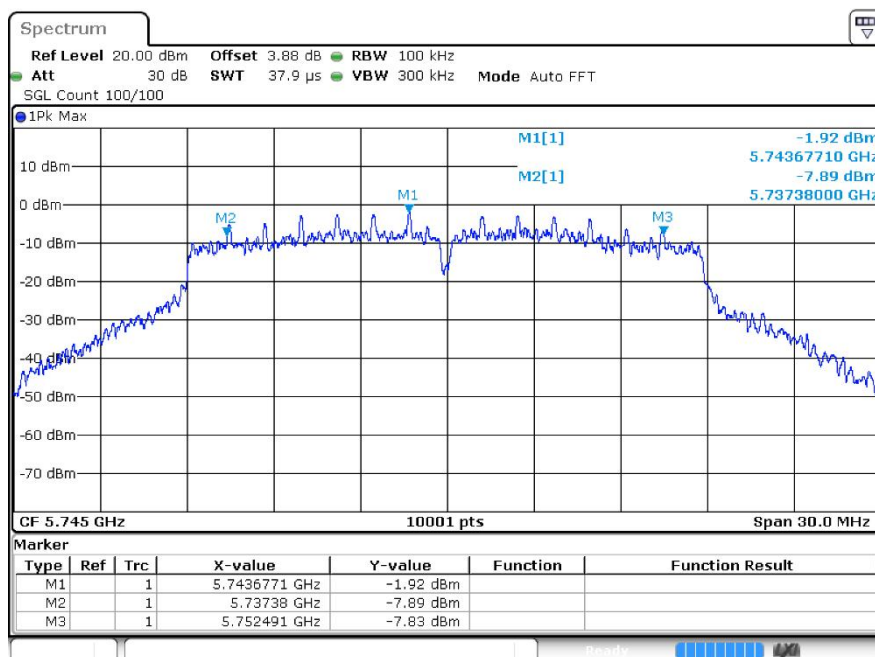




-6dB Bandwidth a 5825MHz Ant1

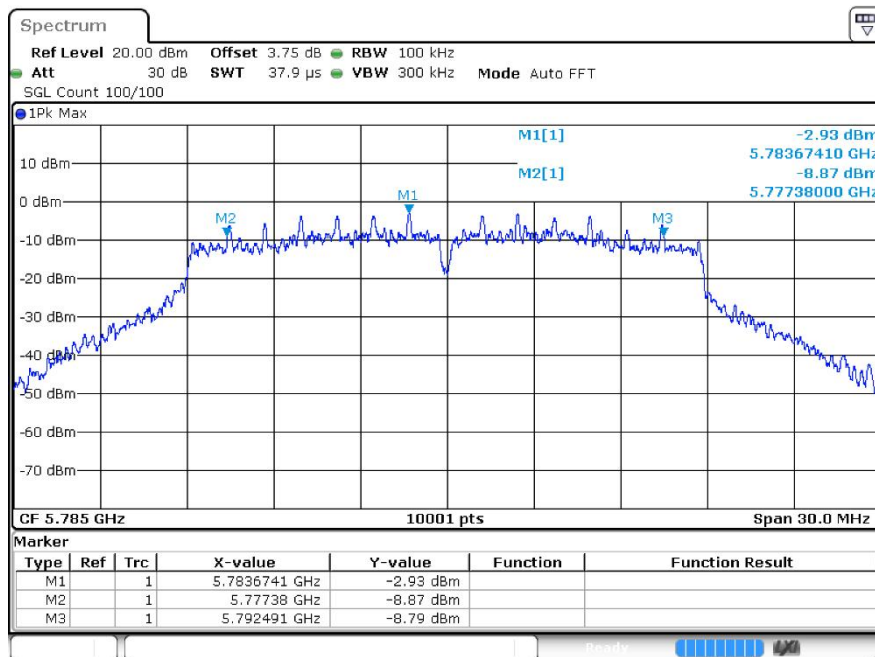


-6dB Bandwidth n20 5745MHz Ant1

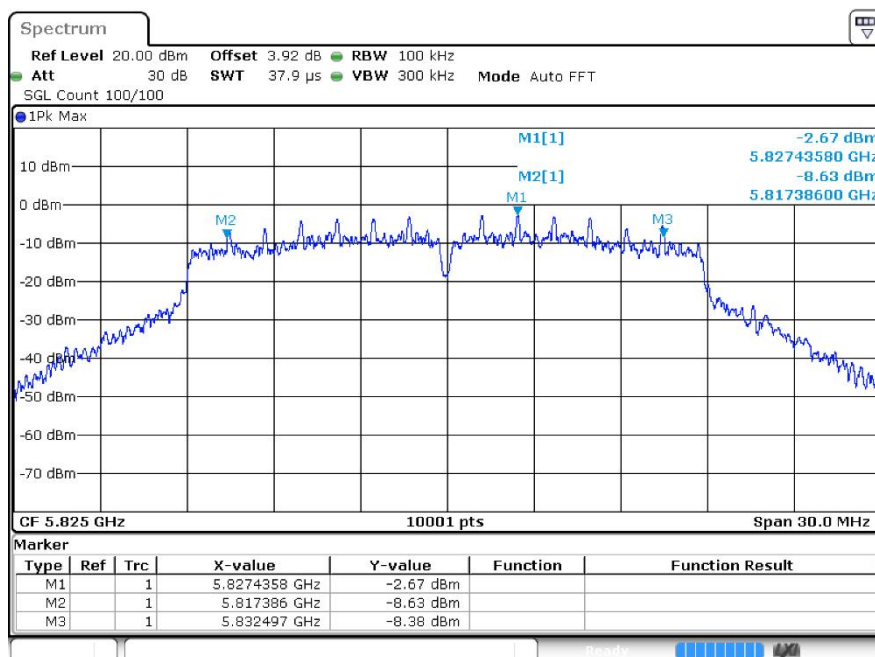




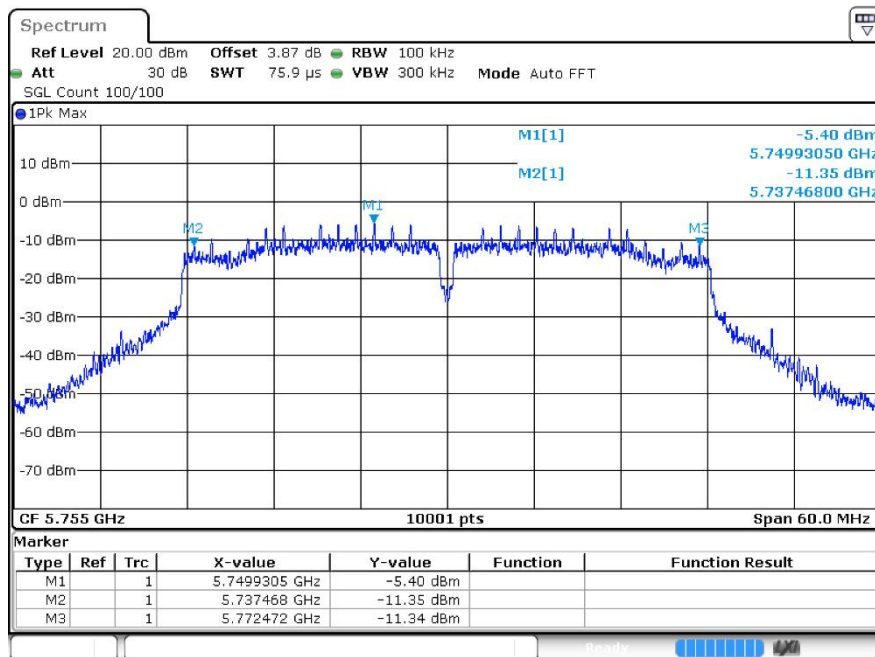
-6dB Bandwidth n20 5785MHz Ant1



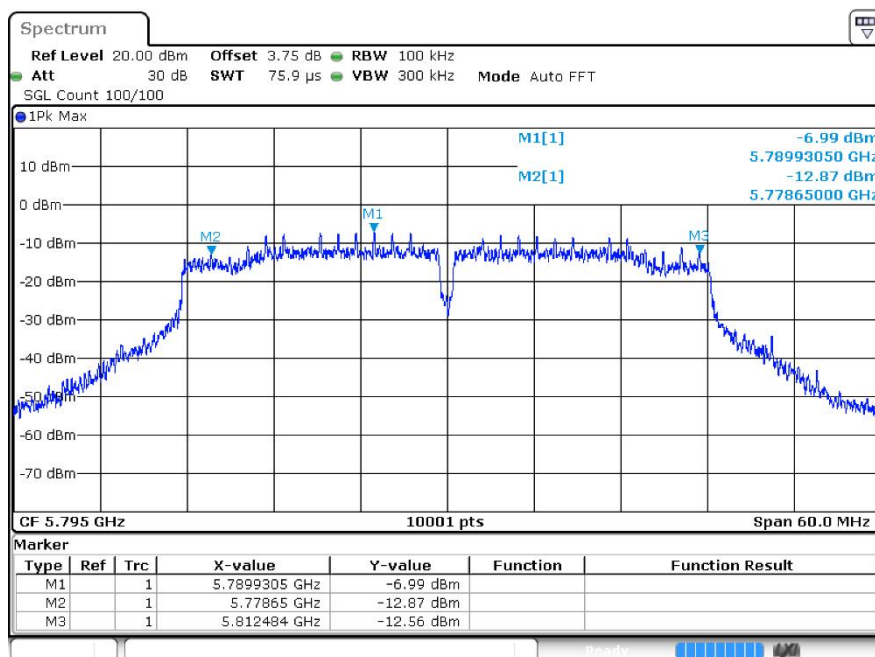
-6dB Bandwidth n20 5825MHz Ant1



-6dB Bandwidth n40 5755MHz Ant1

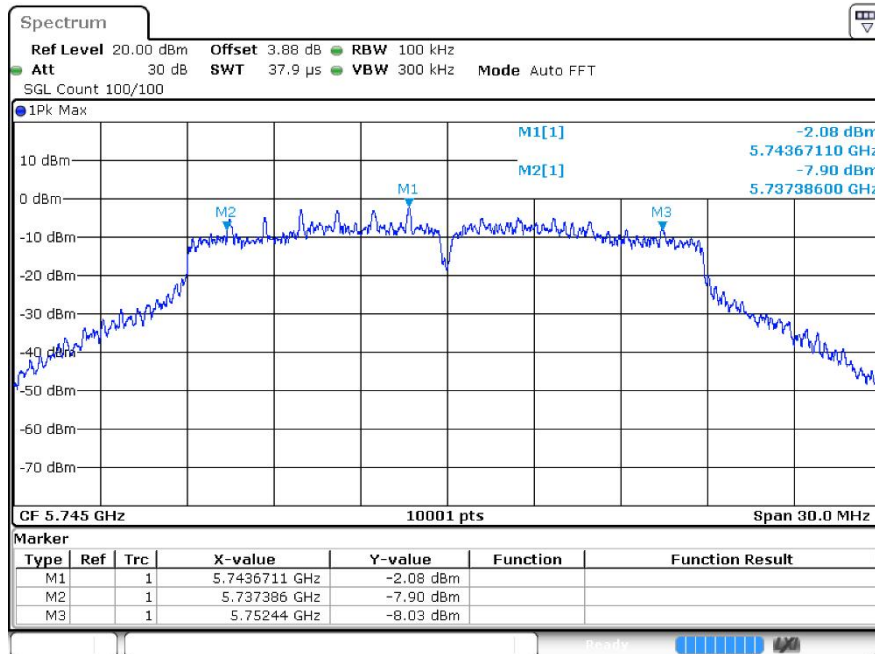


-6dB Bandwidth n40 5795MHz Ant1

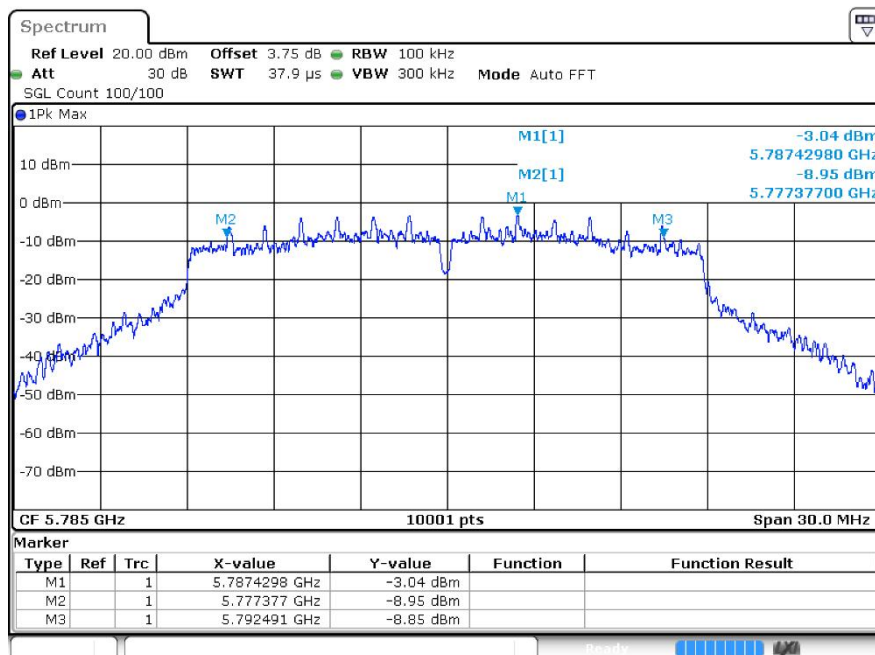




-6dB Bandwidth ac20 5745MHz Ant1

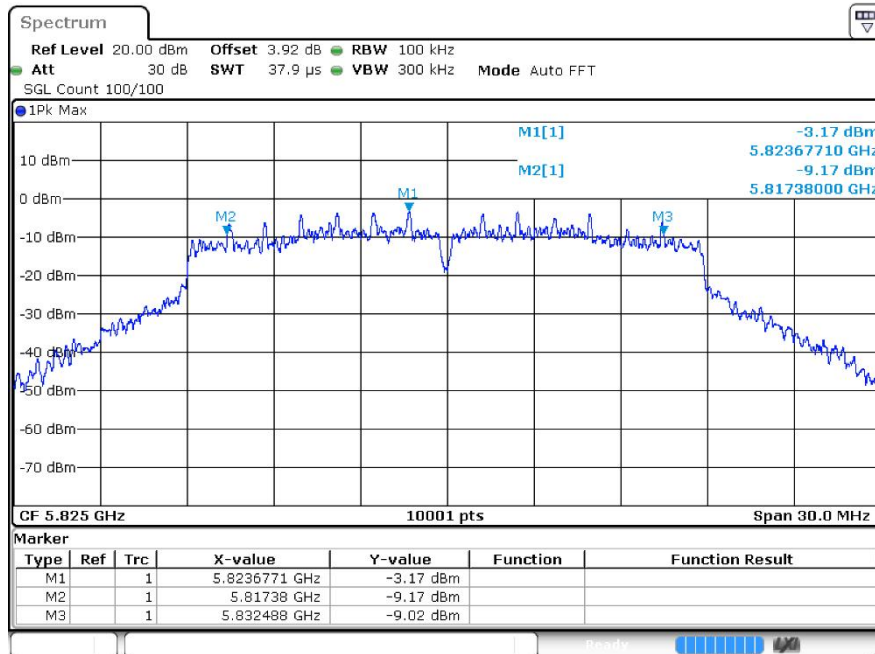


-6dB Bandwidth ac20 5785MHz Ant1

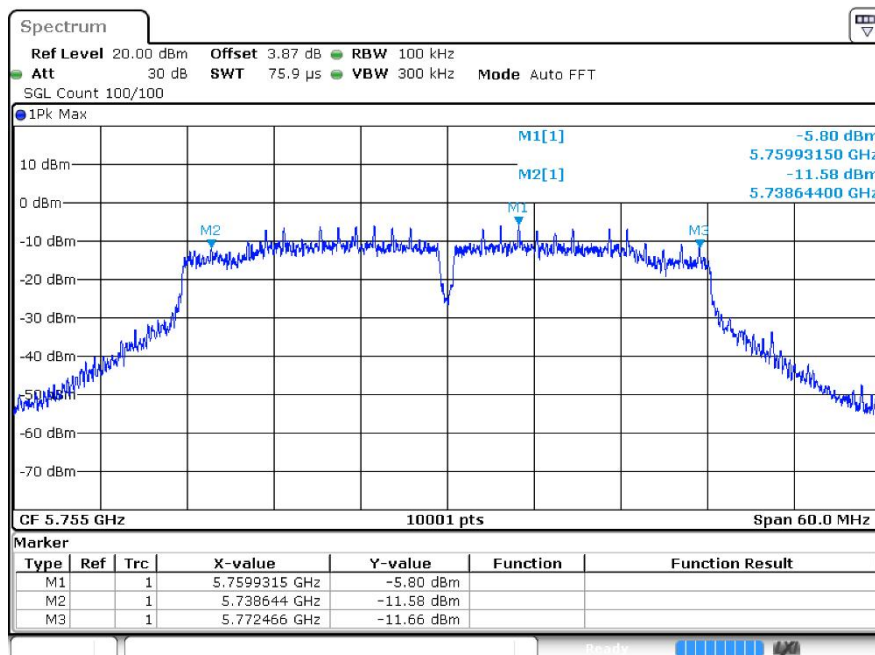




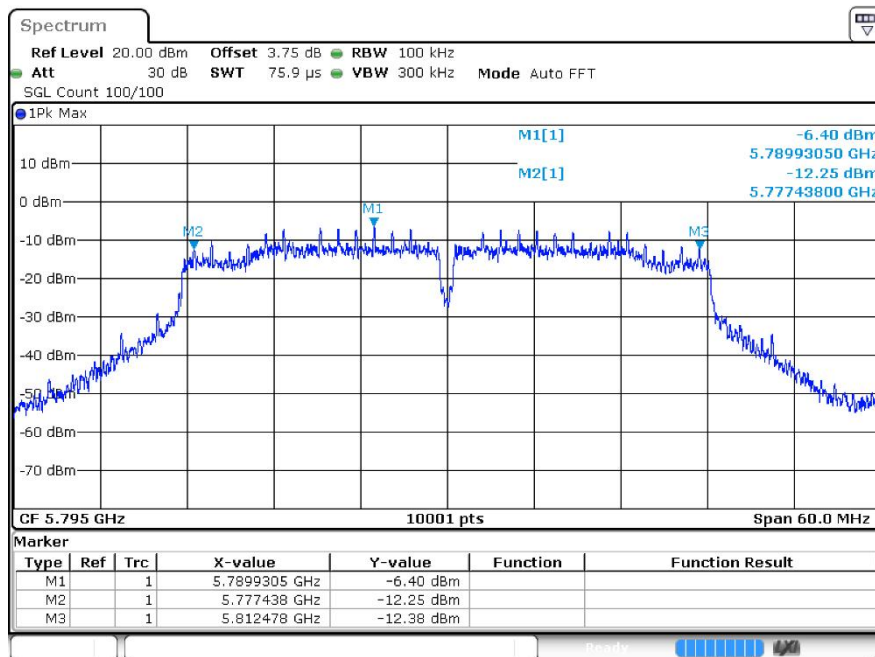
-6dB Bandwidth ac20 5825MHz Ant1



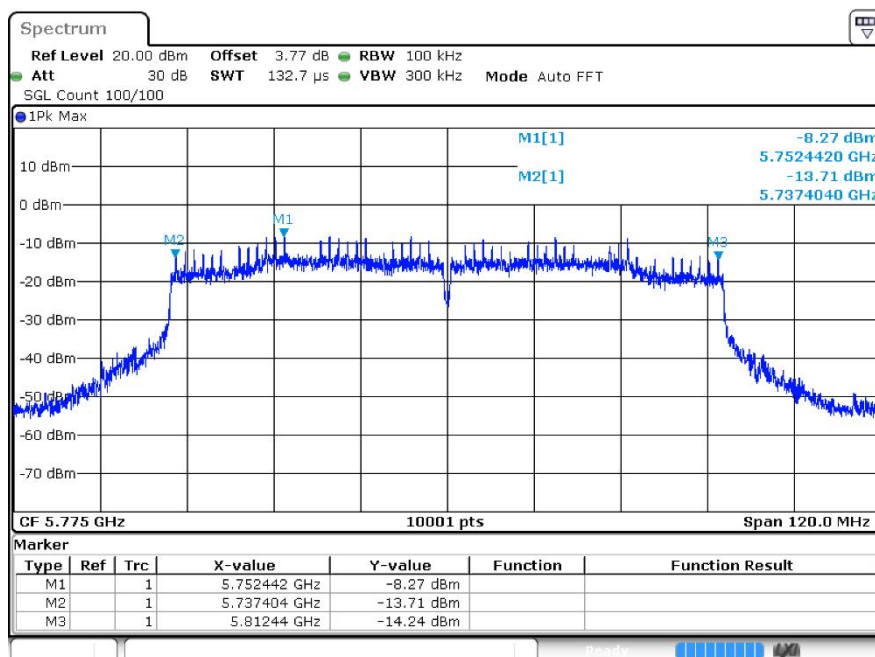
-6dB Bandwidth ac40 5755MHz Ant1



-6dB Bandwidth ac40 5795MHz Ant1



-6dB Bandwidth ac80 5775MHz Ant1



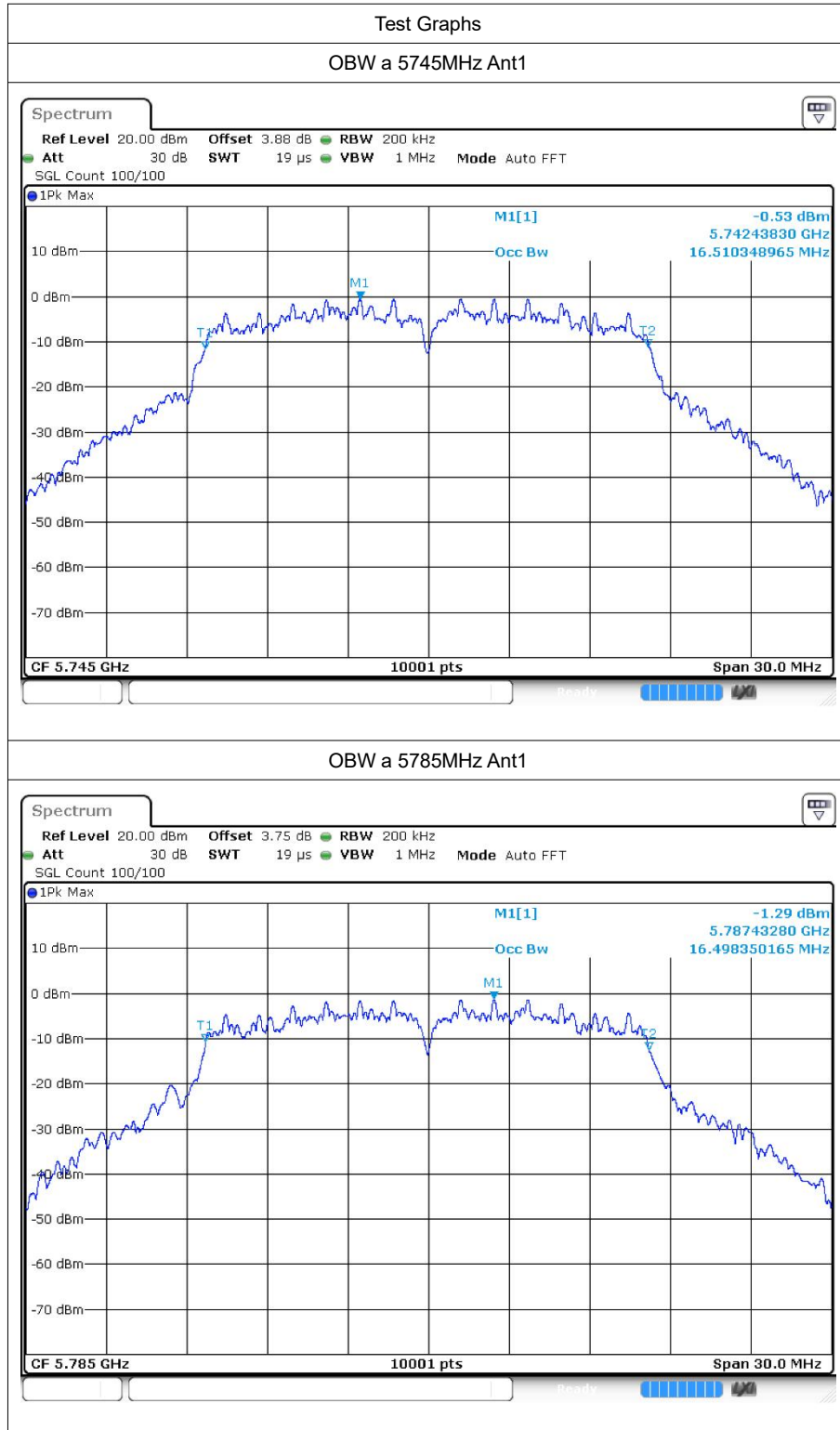


4 Occupied Channel Bandwidth

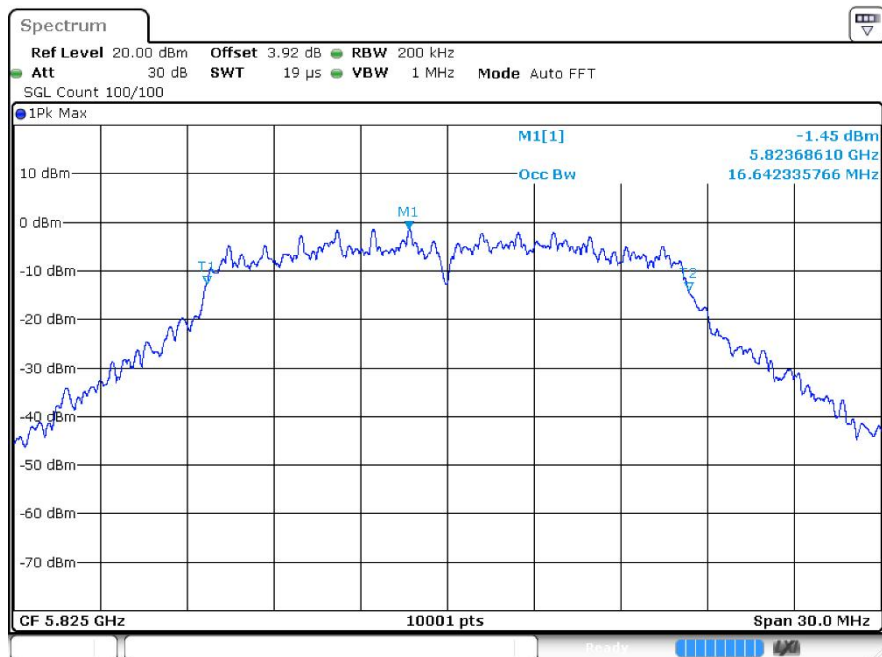
4.1 Test Result

Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
a	5745	Ant1	16.51
a	5785	Ant1	16.498
a	5825	Ant1	16.642
n20	5745	Ant1	17.527
n20	5785	Ant1	17.581
n20	5825	Ant1	17.605
n40	5755	Ant1	35.954
n40	5795	Ant1	36.092
ac20	5745	Ant1	17.626
ac20	5785	Ant1	17.599
ac20	5825	Ant1	17.629
ac40	5755	Ant1	35.978
ac40	5795	Ant1	36.056
ac80	5775	Ant1	75.076

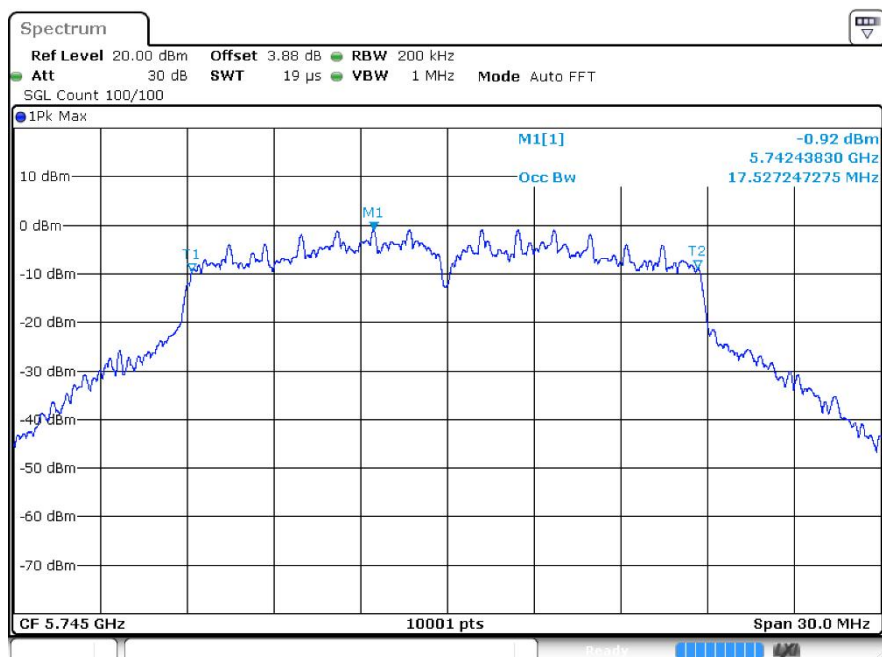
4.2 Test Graphs



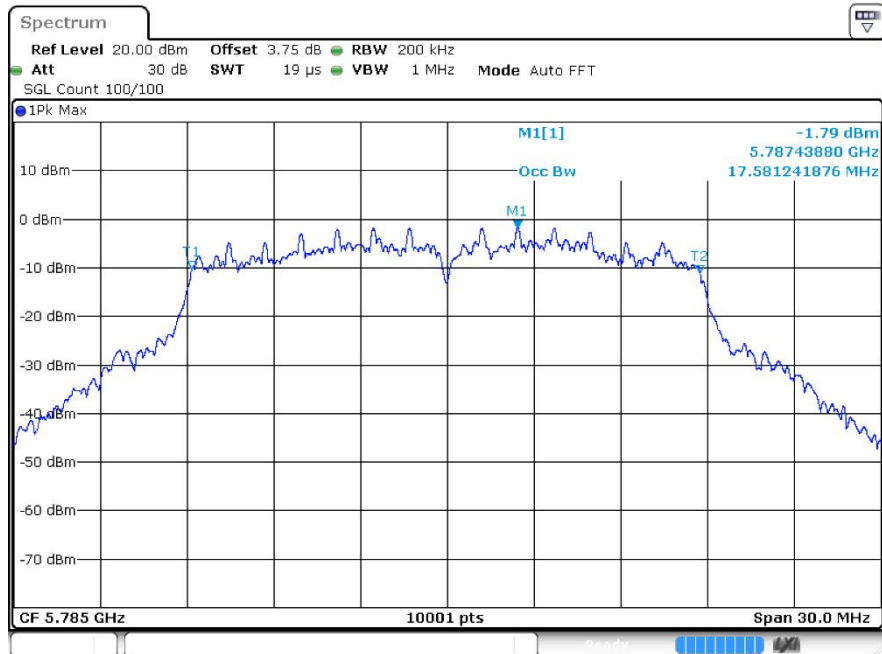
OBW a 5825MHz Ant1



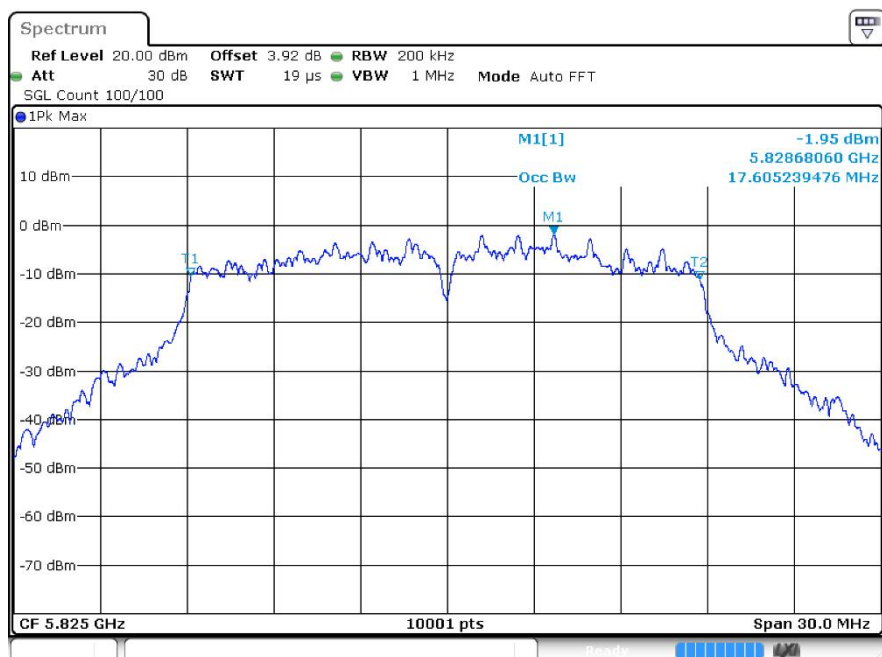
OBW n20 5745MHz Ant1



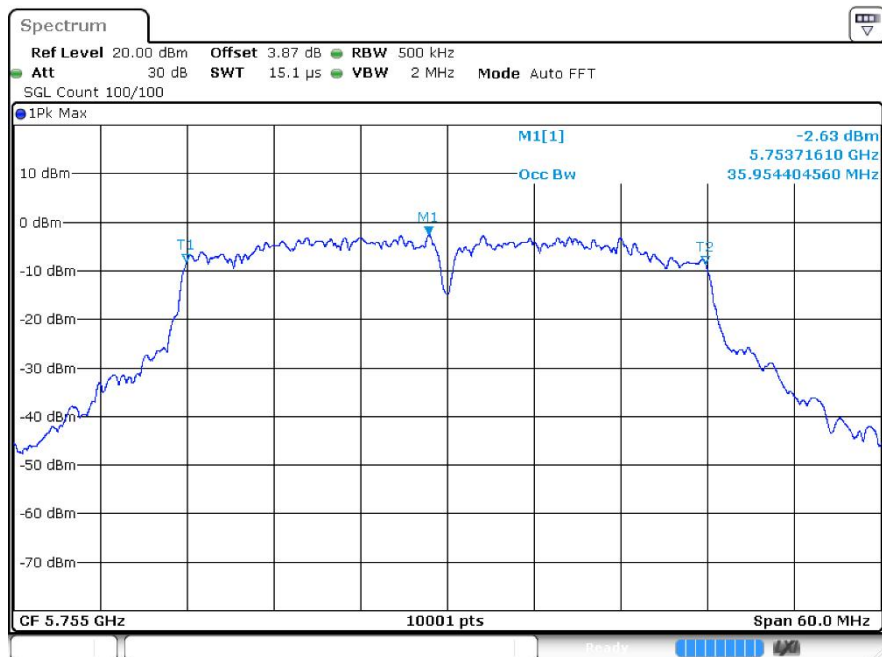
OBW n20 5785MHz Ant1



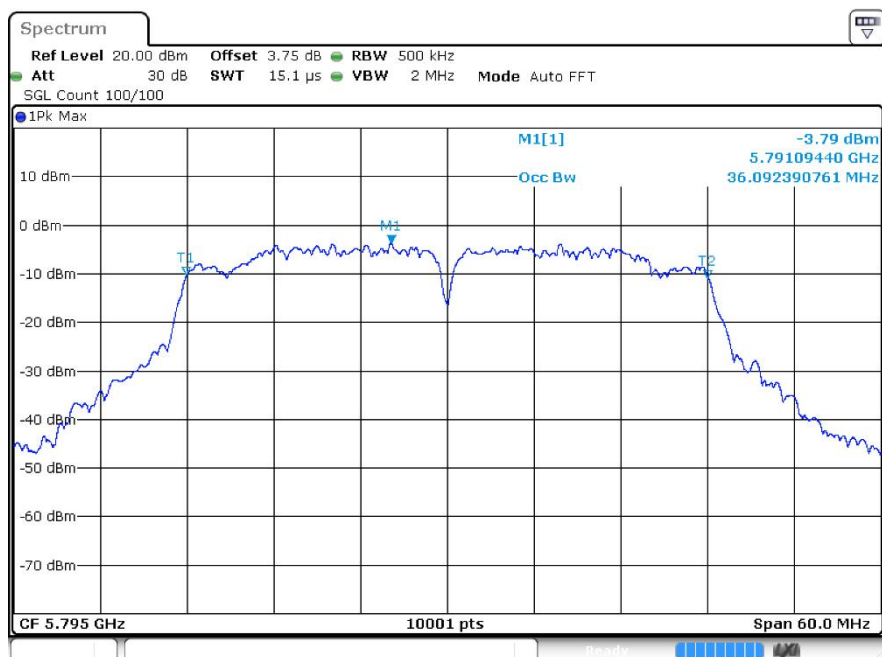
OBW n20 5825MHz Ant1



OBW n40 5755MHz Ant1

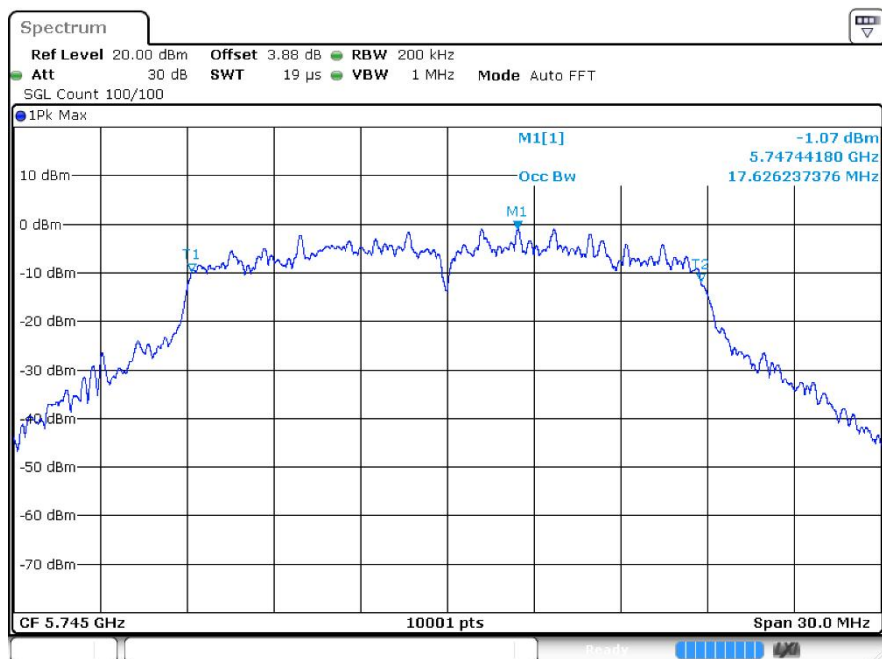


OBW n40 5795MHz Ant1

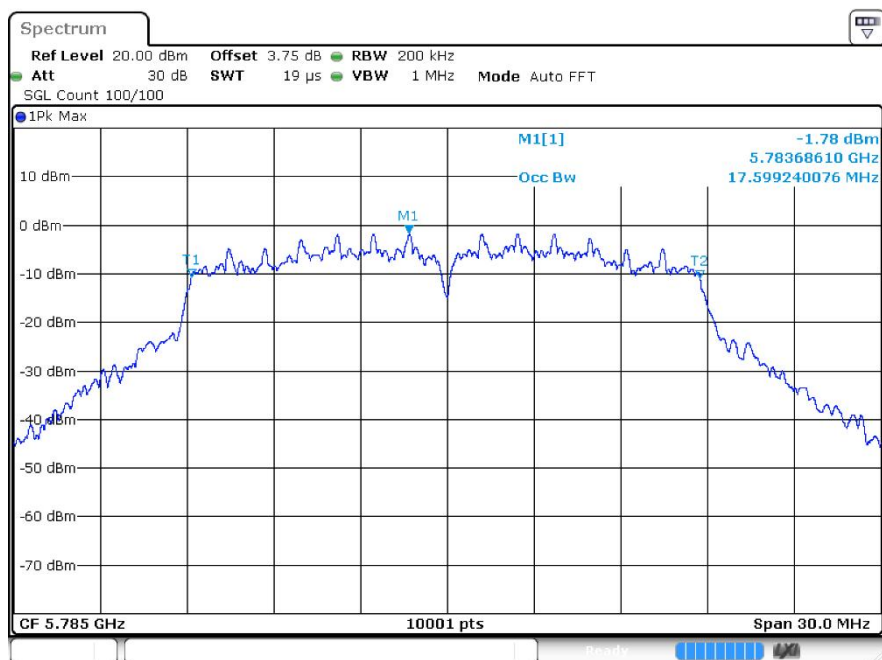




OBW ac20 5745MHz Ant1

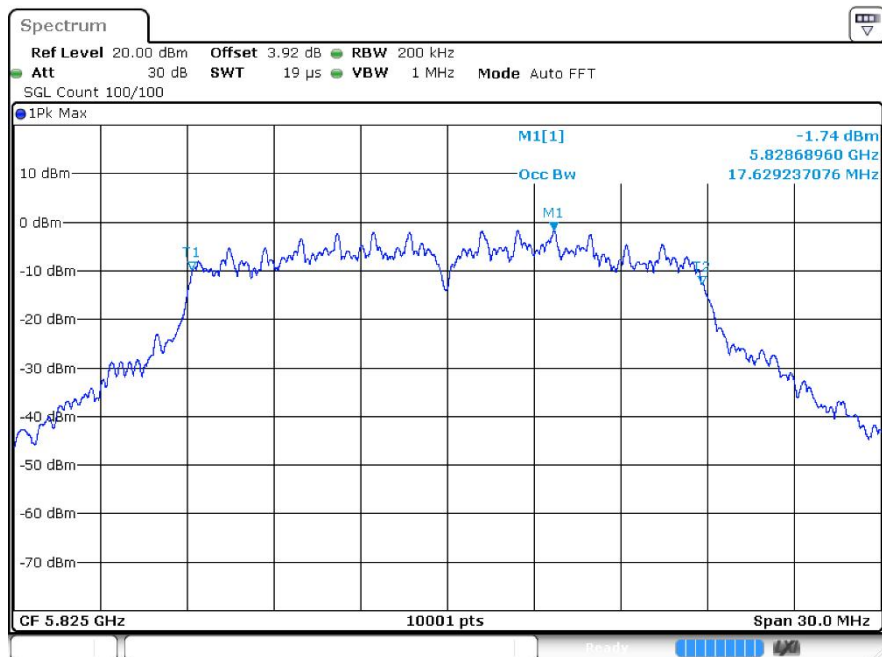


OBW ac20 5785MHz Ant1

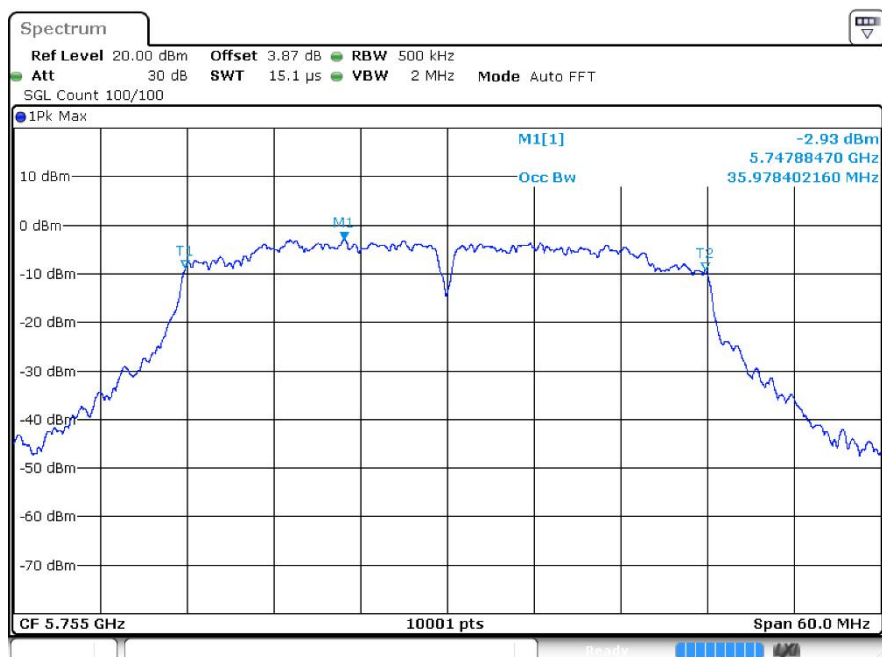




OBW ac20 5825MHz Ant1

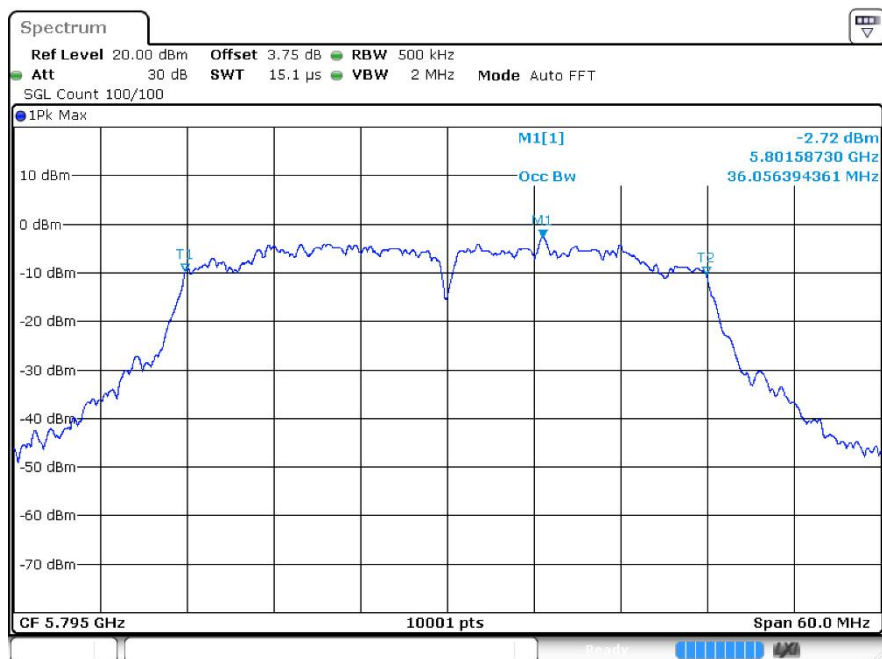


OBW ac40 5755MHz Ant1

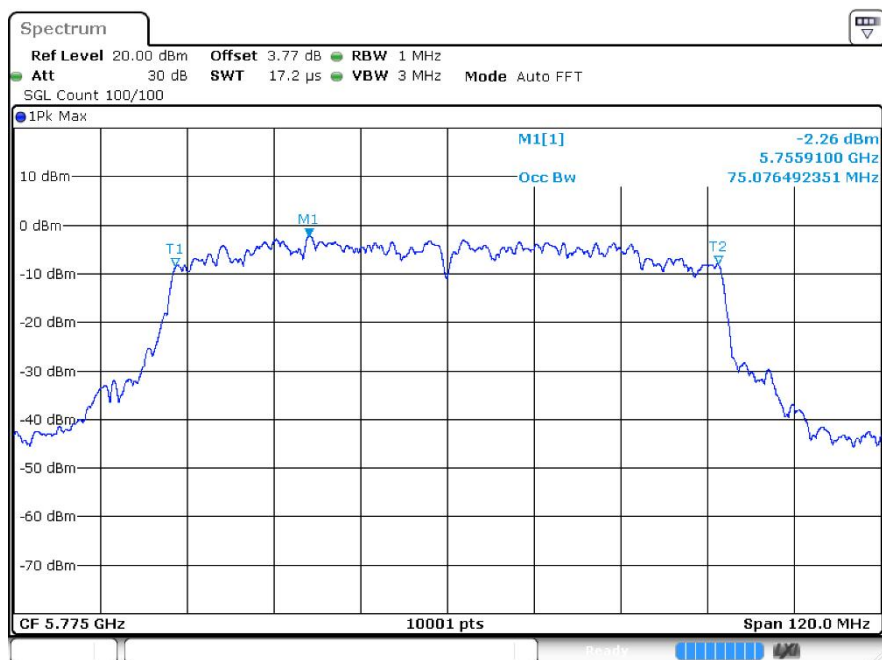




OBW ac40 5795MHz Ant1



OBW ac80 5775MHz Ant1



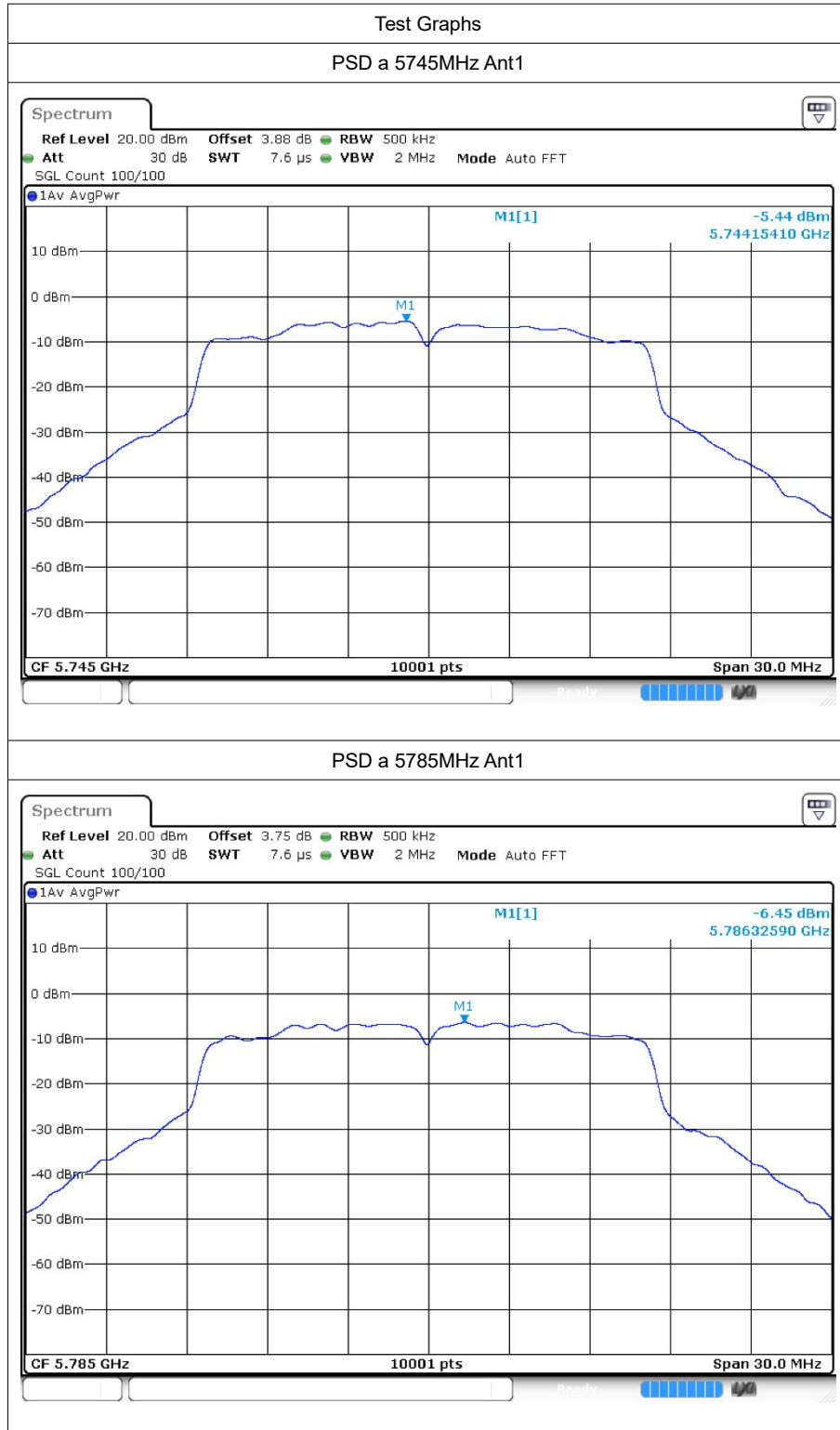


5 Maximum Power Spectral Density Level

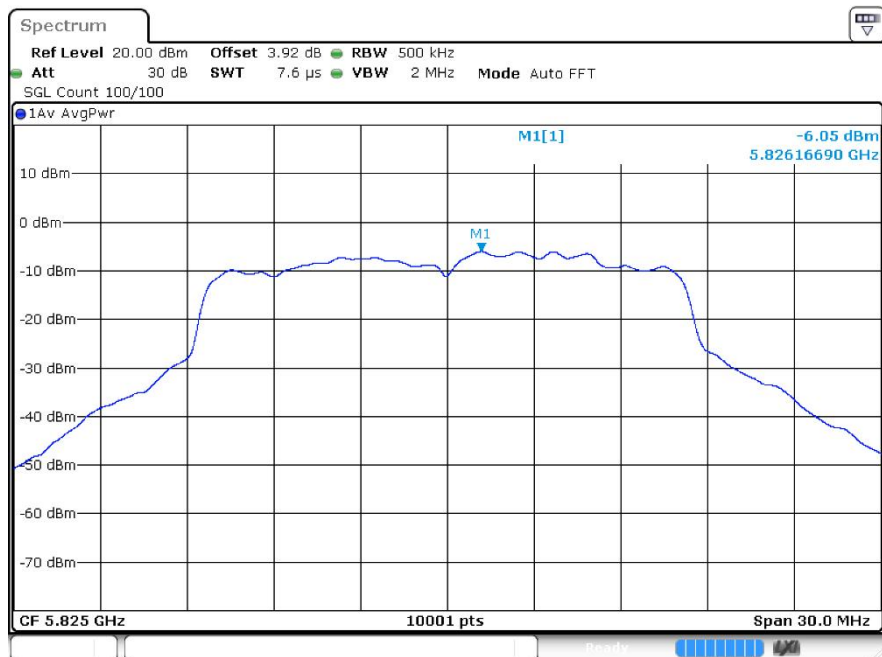
5.1 Test Result

Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5745	Ant1	-5.44	0.61	-4.83	30	Pass
a	5785	Ant1	-6.45	0.61	-5.84	30	Pass
a	5825	Ant1	-6.05	0.61	-5.44	30	Pass
n20	5745	Ant1	-5.78	0.57	-5.21	30	Pass
n20	5785	Ant1	-6.83	0.57	-6.26	30	Pass
n20	5825	Ant1	-6.63	0.58	-6.05	30	Pass
n40	5755	Ant1	-9.62	0.55	-9.07	30	Pass
n40	5795	Ant1	-11.37	0.55	-10.82	30	Pass
ac20	5745	Ant1	-6.35	0.6	-5.75	30	Pass
ac20	5785	Ant1	-7.31	0.59	-6.72	30	Pass
ac20	5825	Ant1	-6.72	0.59	-6.13	30	Pass
ac40	5755	Ant1	-9.56	0.59	-8.97	30	Pass
ac40	5795	Ant1	-10.41	0.66	-9.75	30	Pass
ac80	5775	Ant1	-12.74	0.59	-12.15	30	Pass

5.2 Test Graphs



PSD a 5825MHz Ant1



PSD n20 5745MHz Ant1

