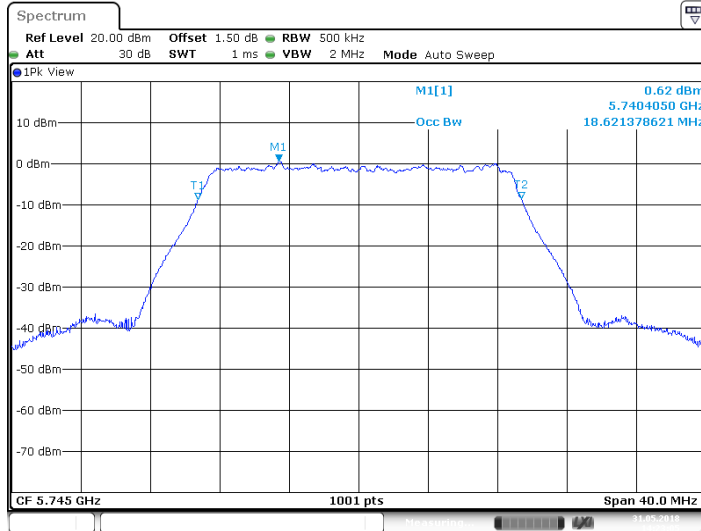
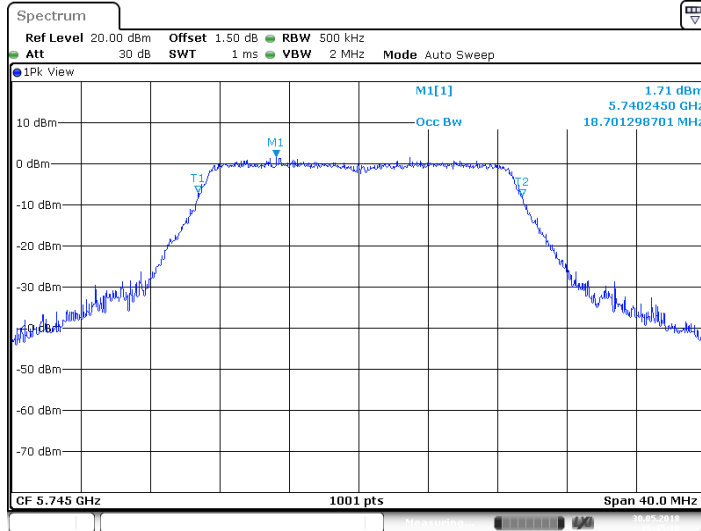


11ac VHT20_Ant1_5745



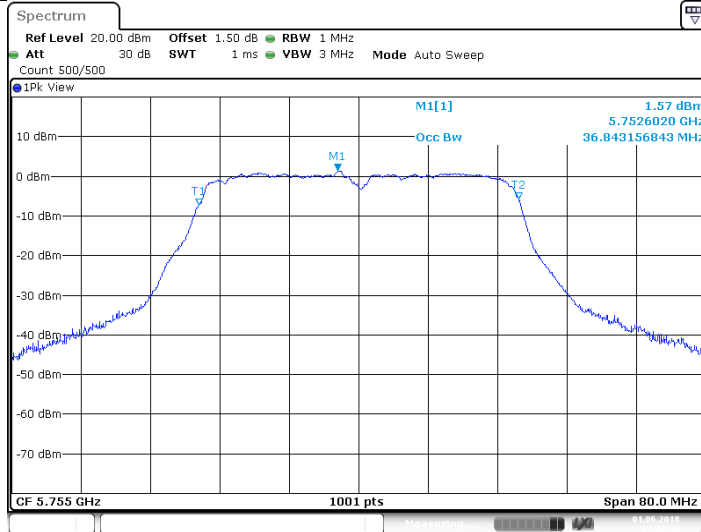
Date: 31 MAY 2018 14:23:06

11n HT20_Ant1_5745

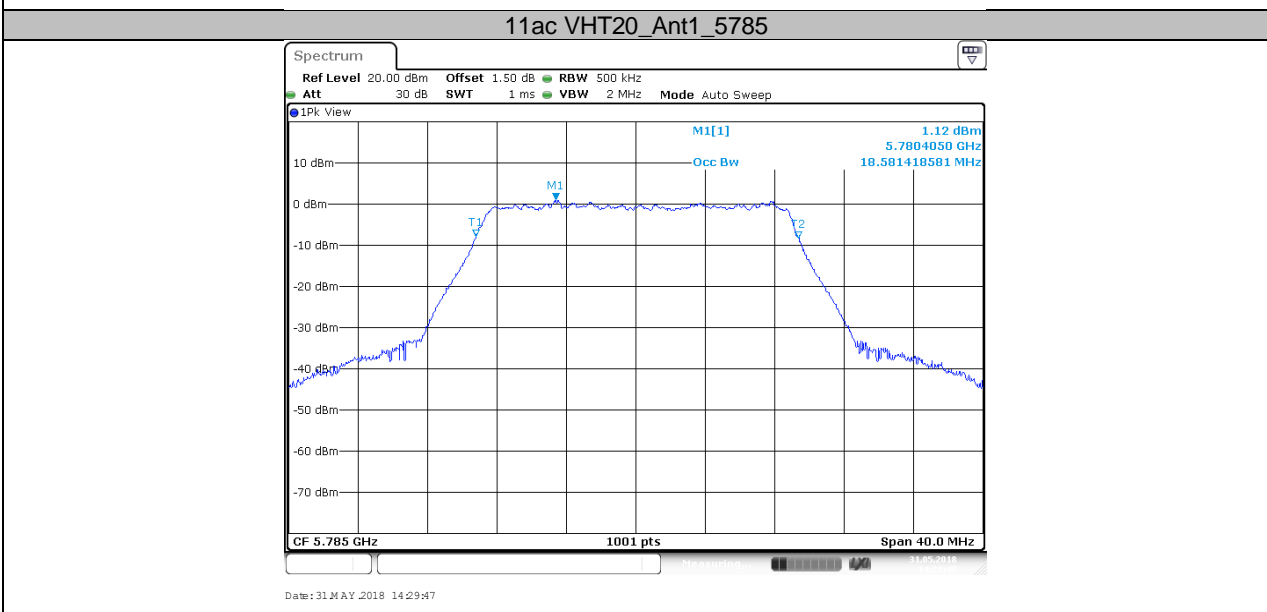
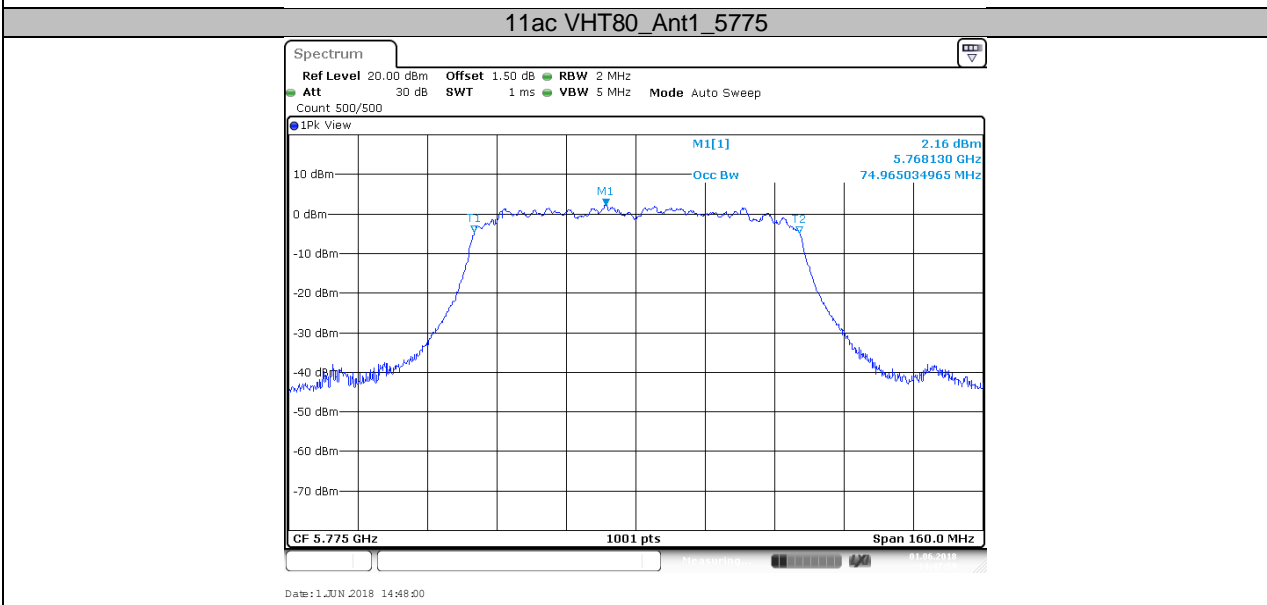
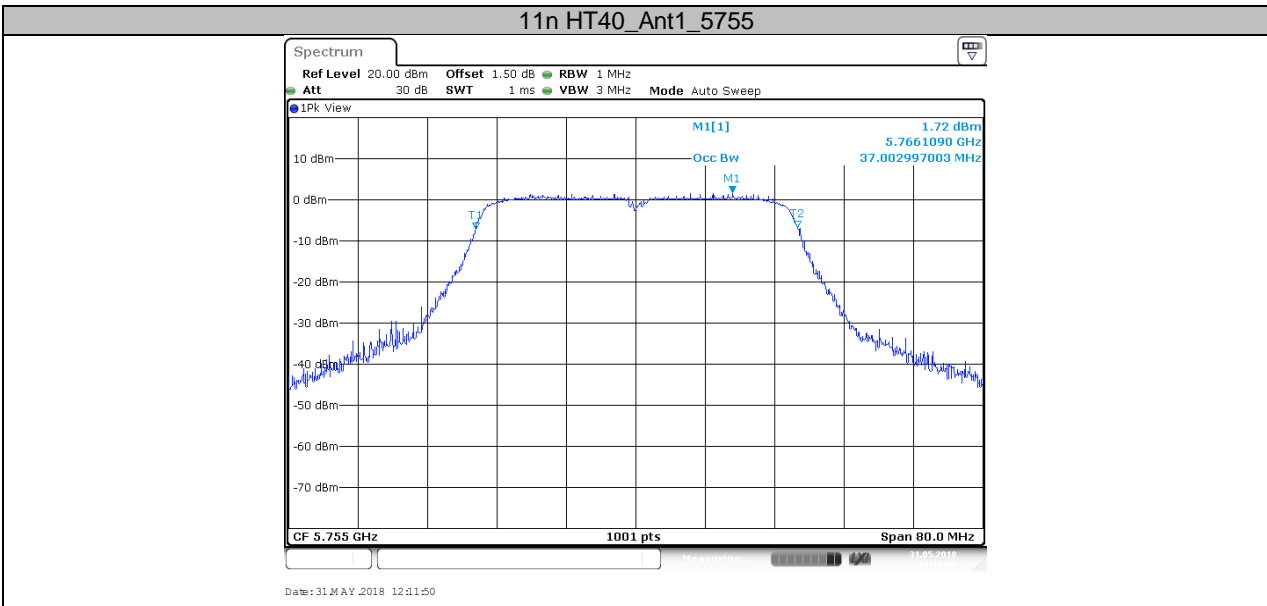


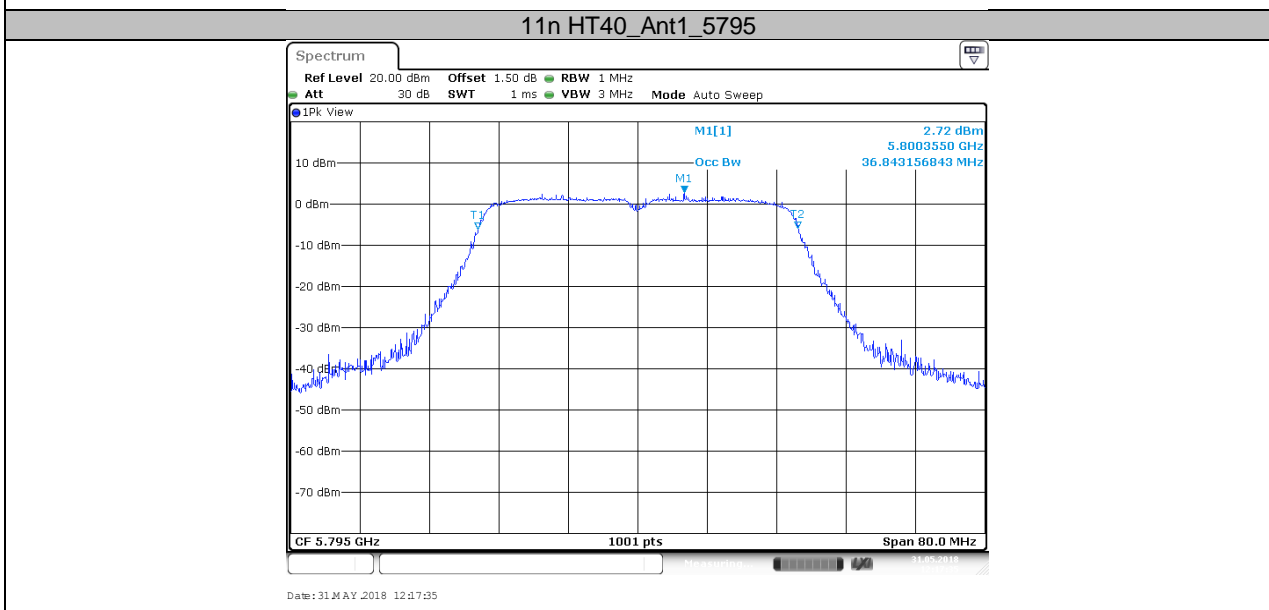
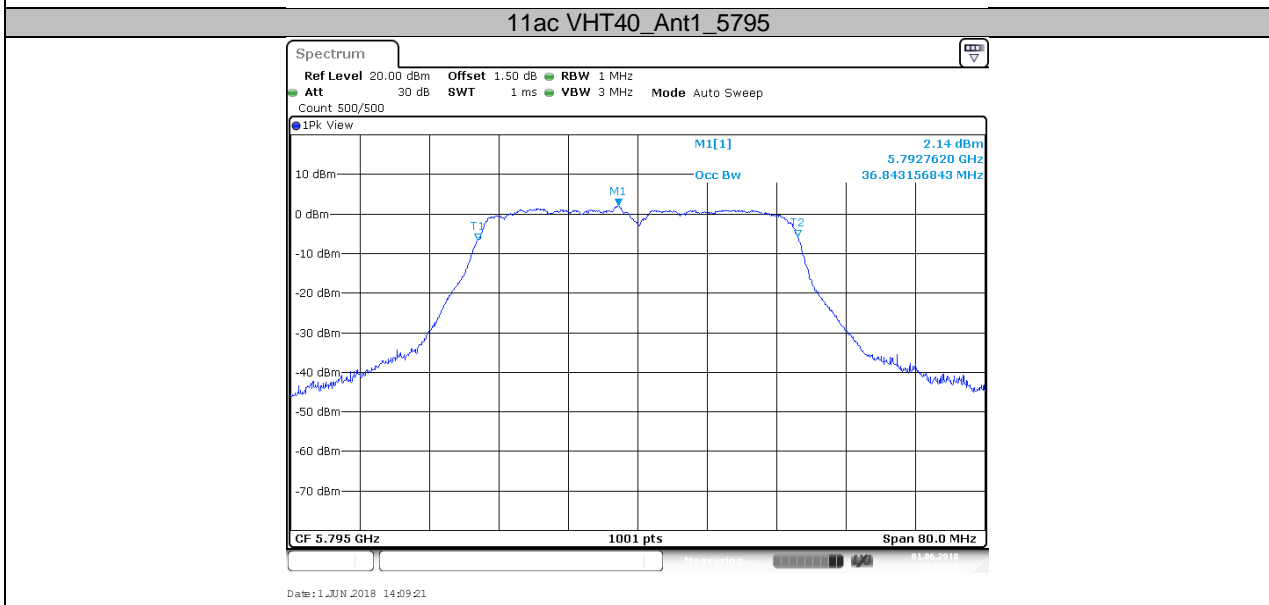
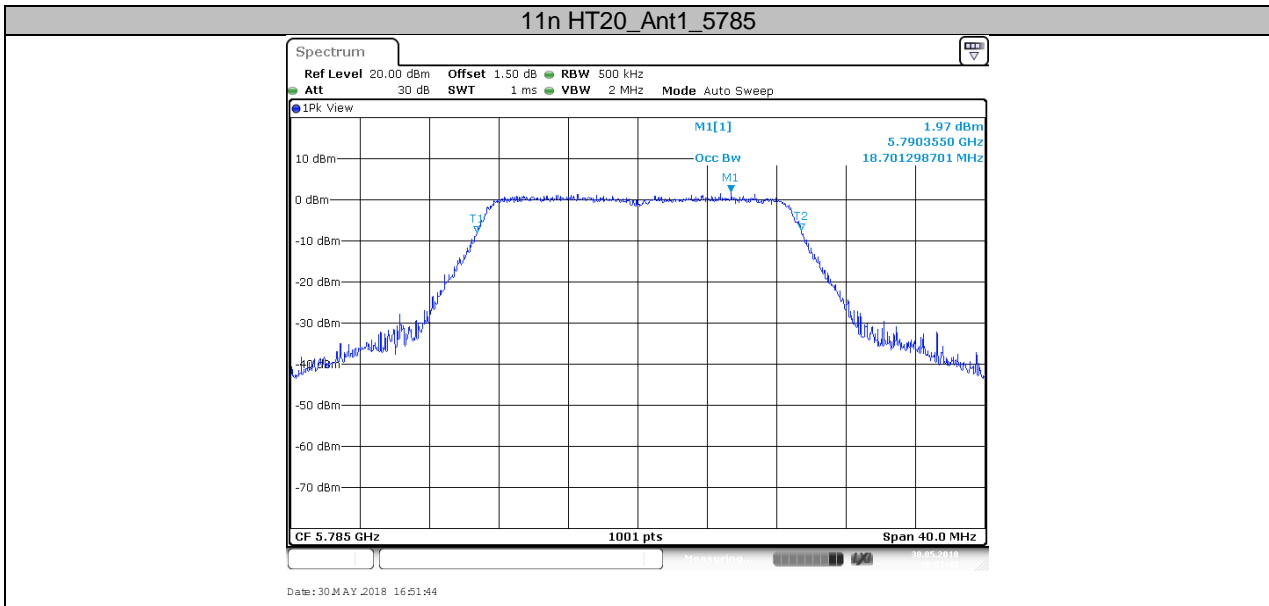
Date: 30 MAY 2018 16:45:18

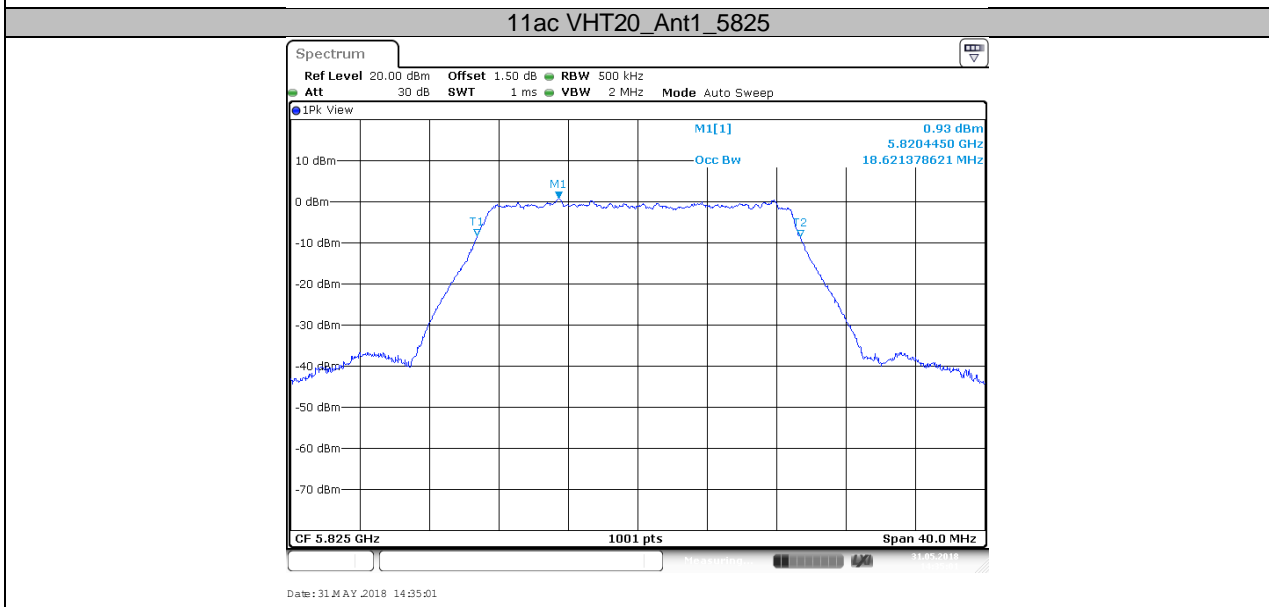
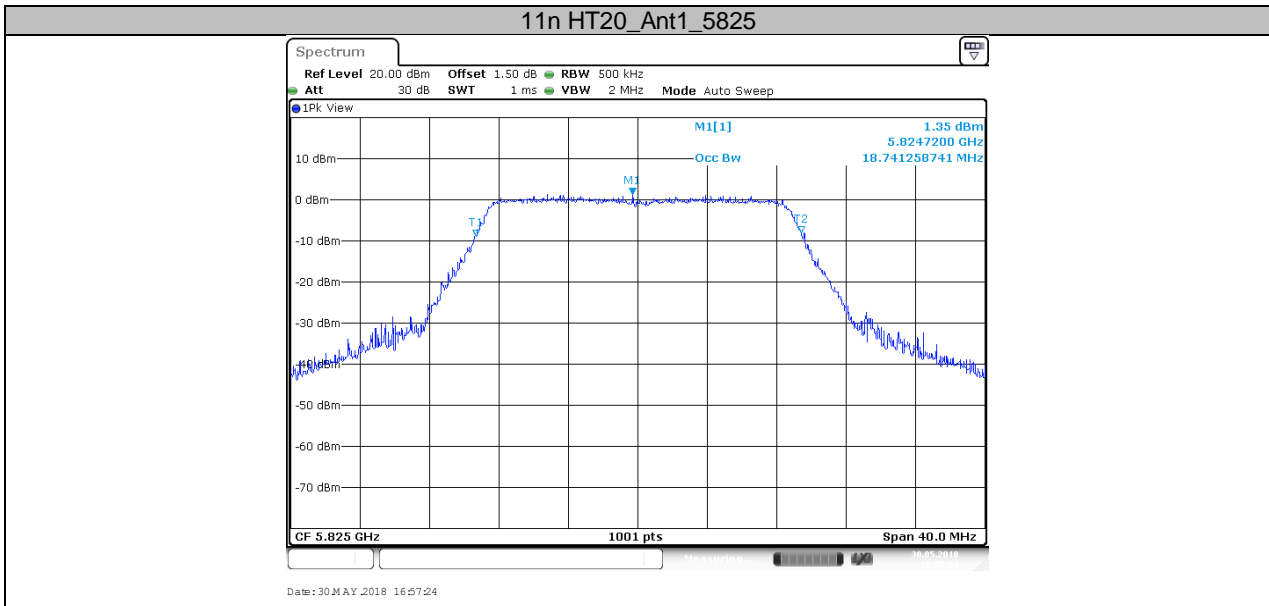
11ac VHT40_Ant1_5755



Date: 1 JUN 2018 14:03:46

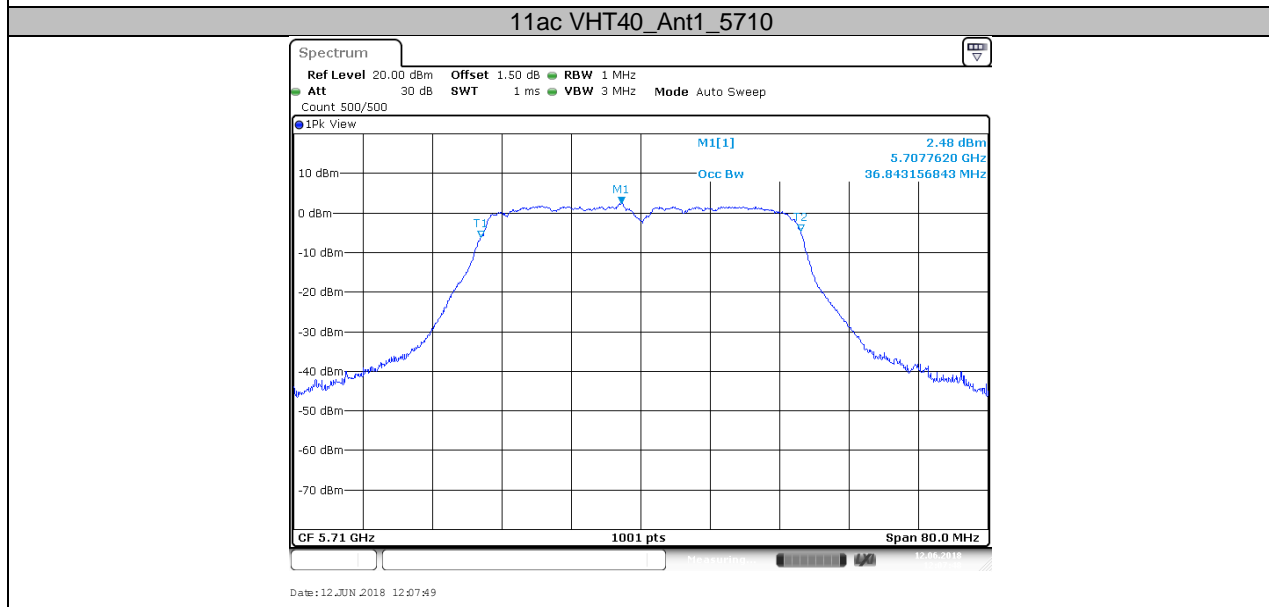
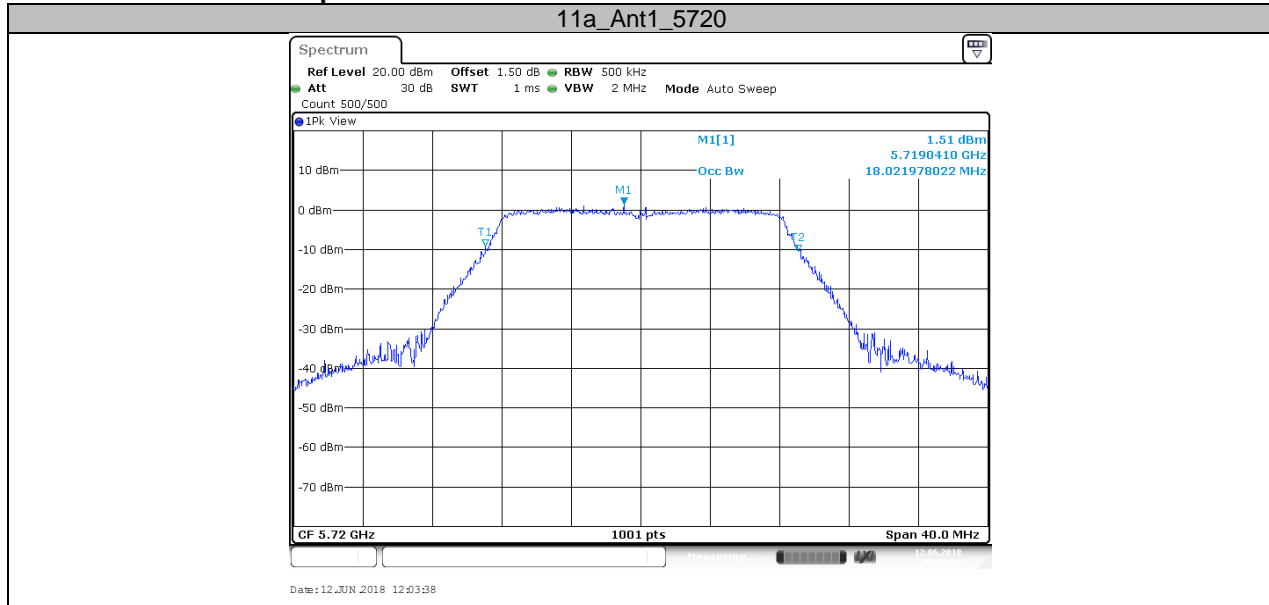


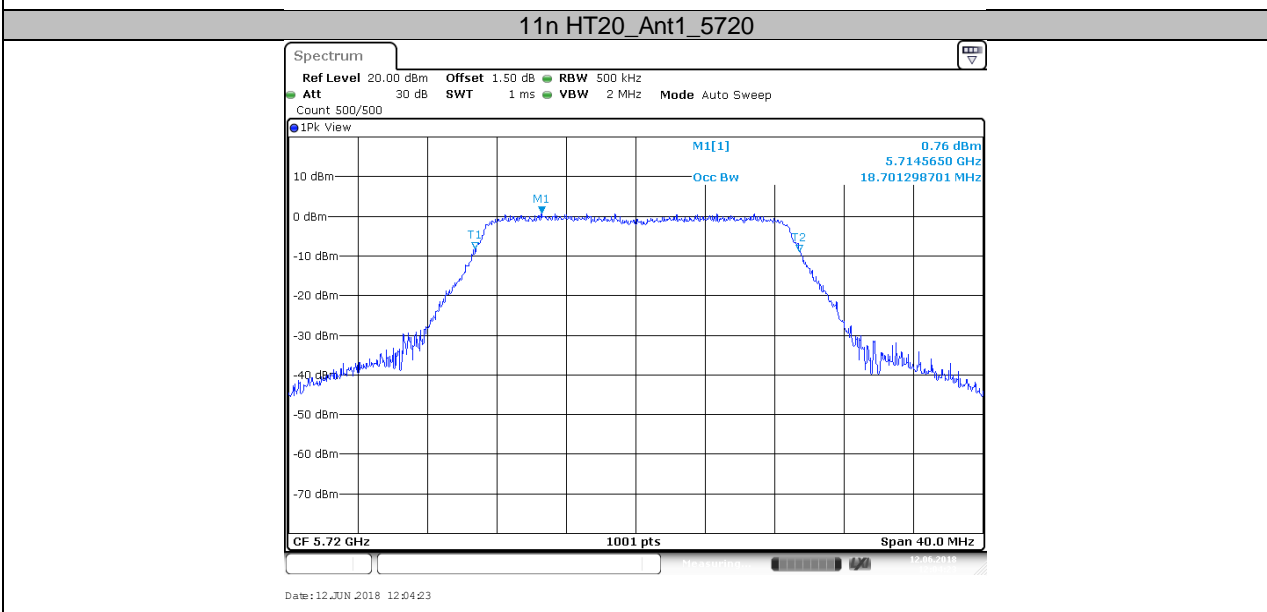
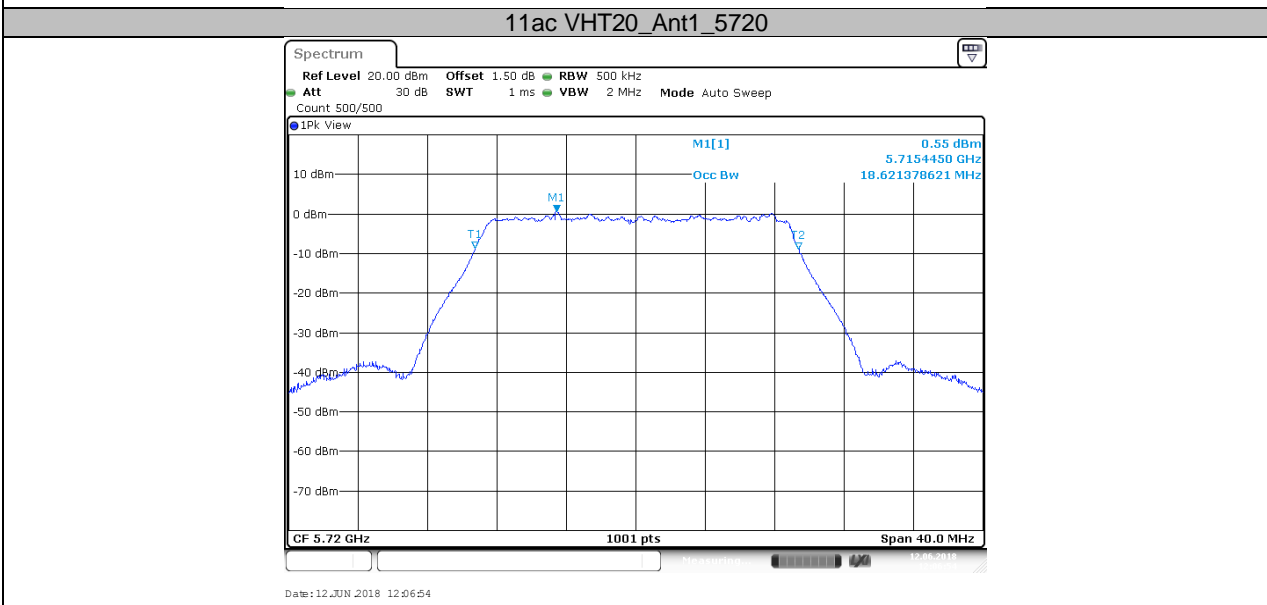
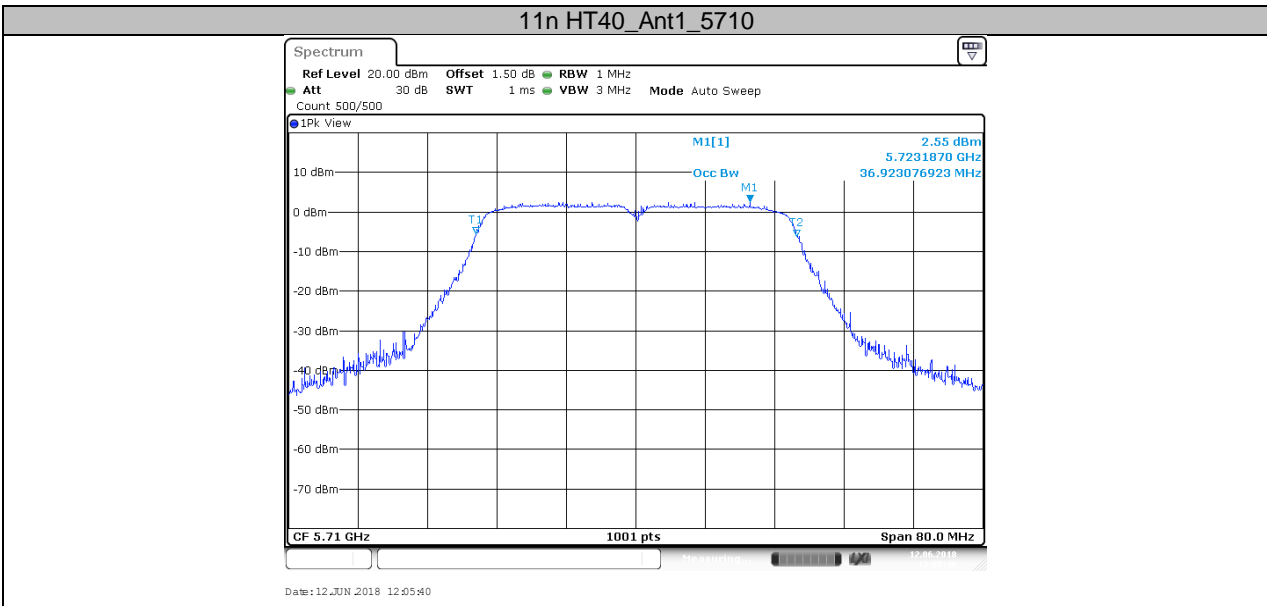




Test Mode	Antenna	Channel	OCB [MHz]	Limit[MHz]	Verdict
11a	Ant1	5720	18.022	---	PASS
11ac VHT40	Ant1	5710	36.843	---	PASS
11n HT40	Ant1	5710	36.923	---	PASS
11ac VHT20	Ant1	5720	18.621	---	PASS
11n HT20	Ant1	5720	18.701	---	PASS

99% Bandwidth Test Graphs

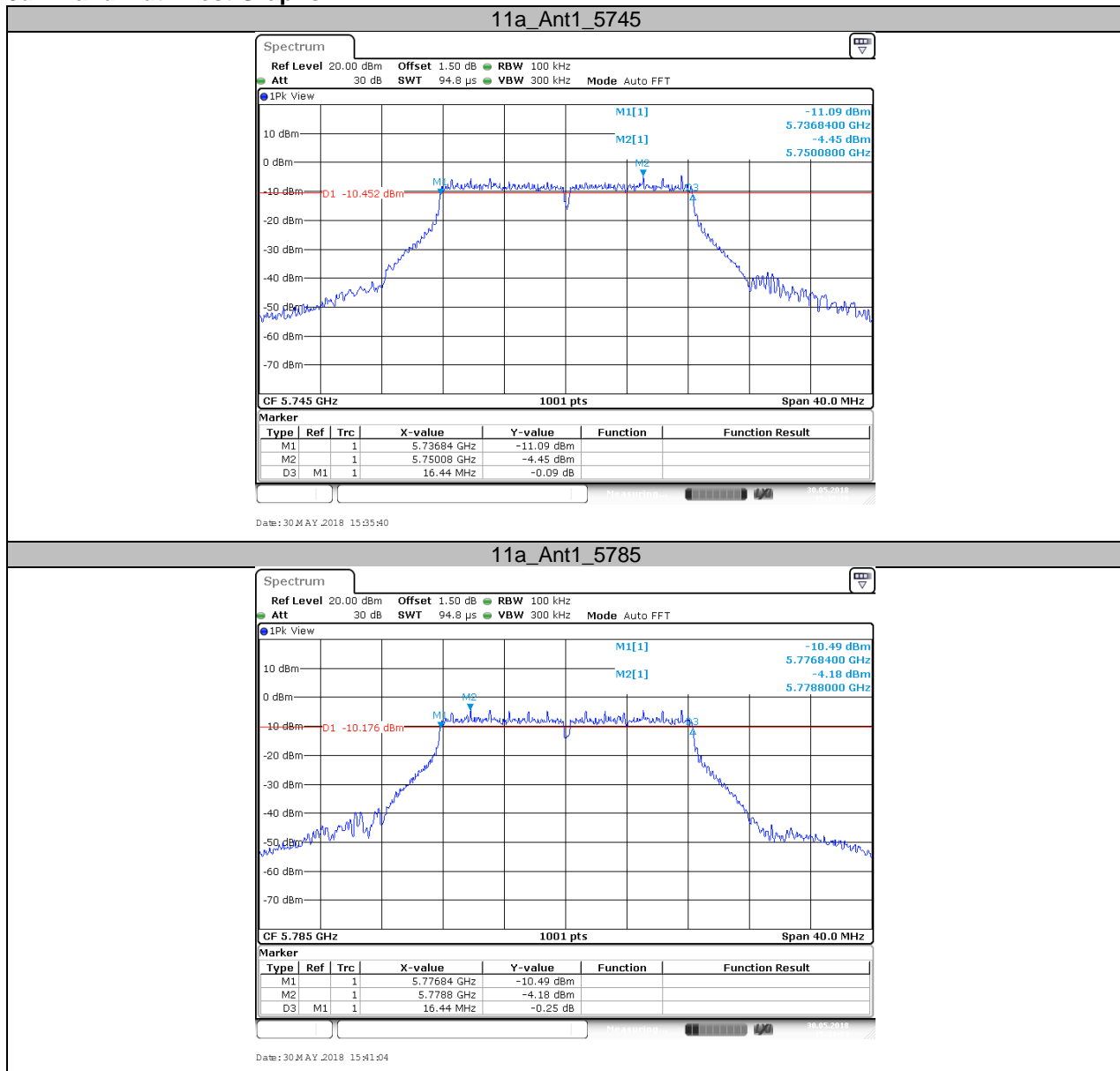


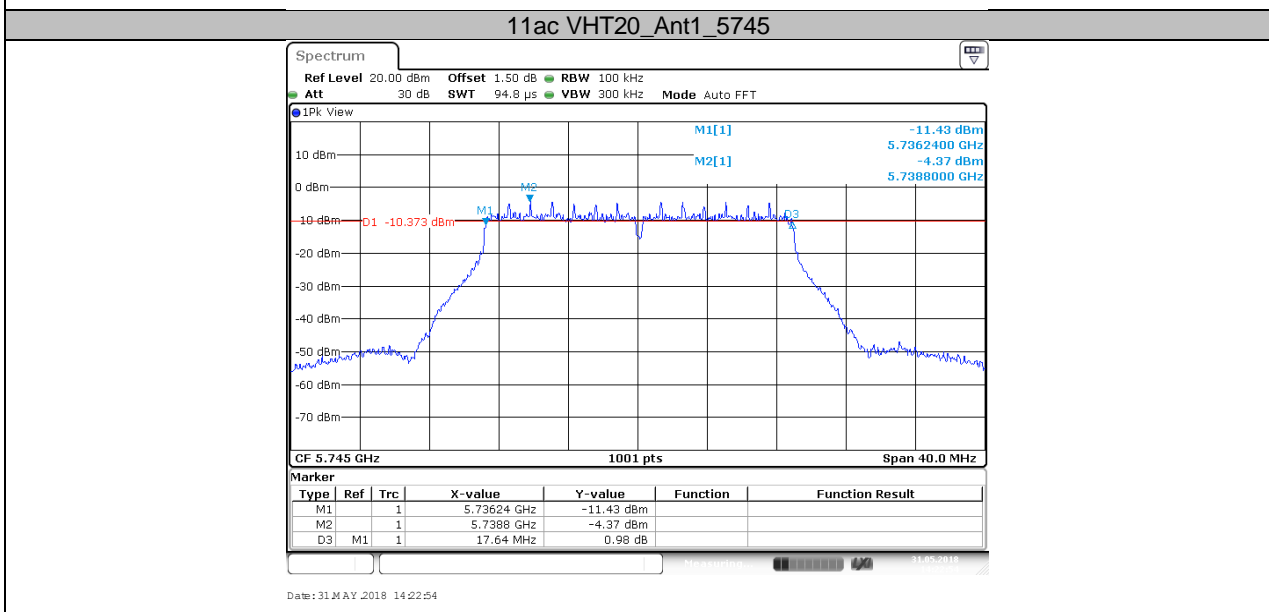
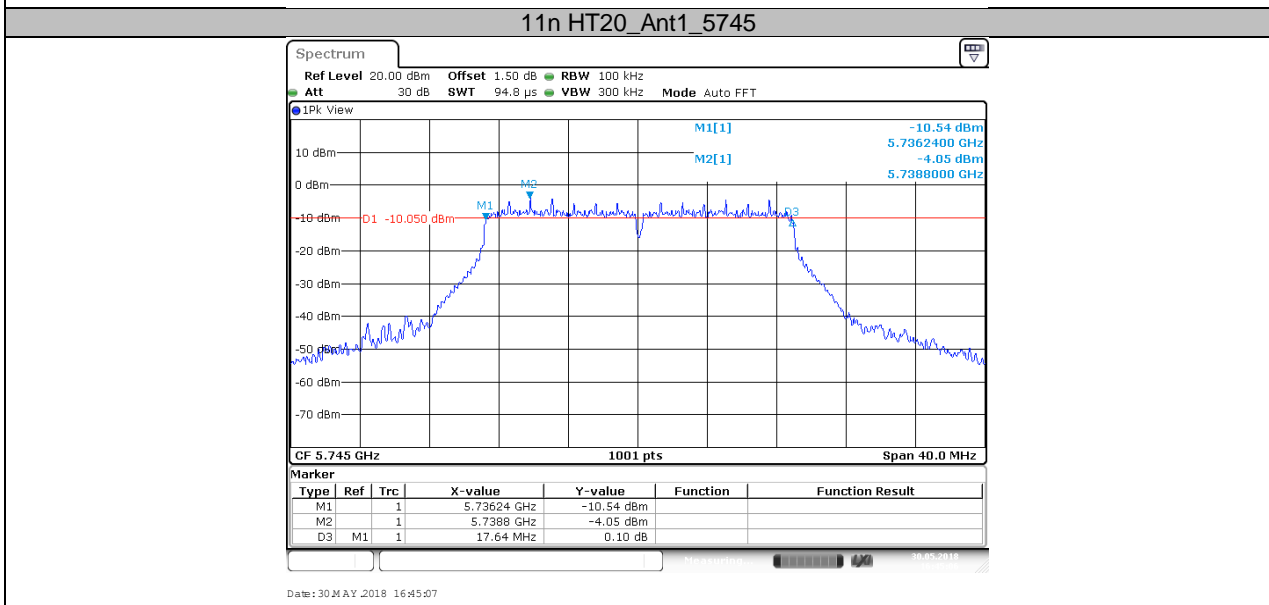
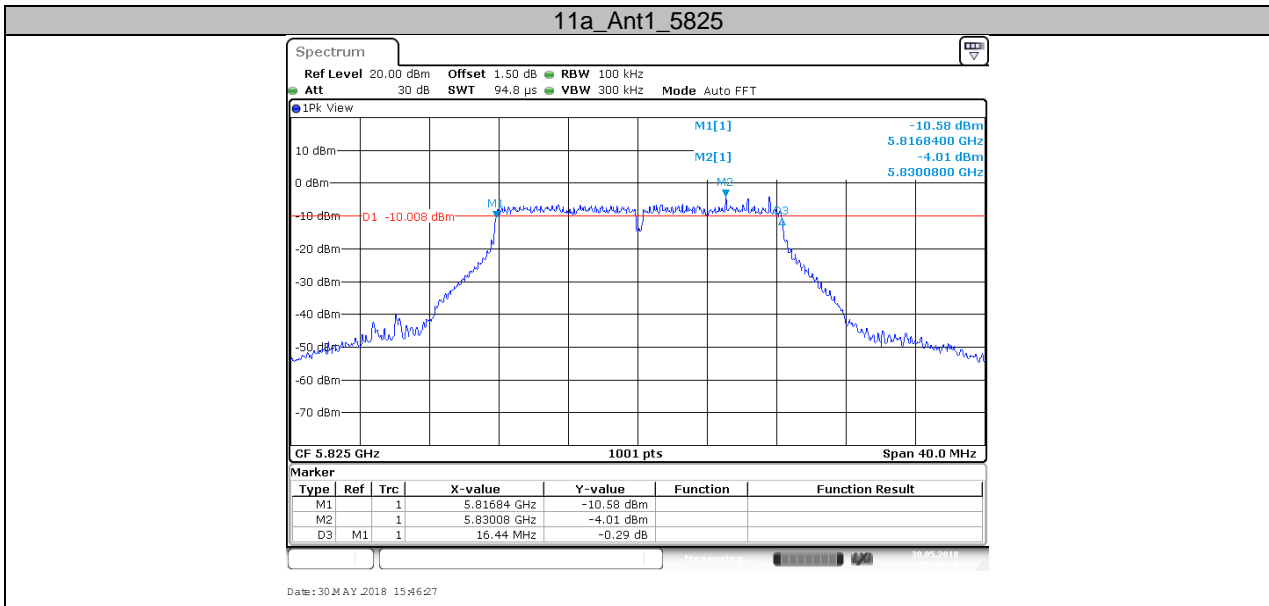


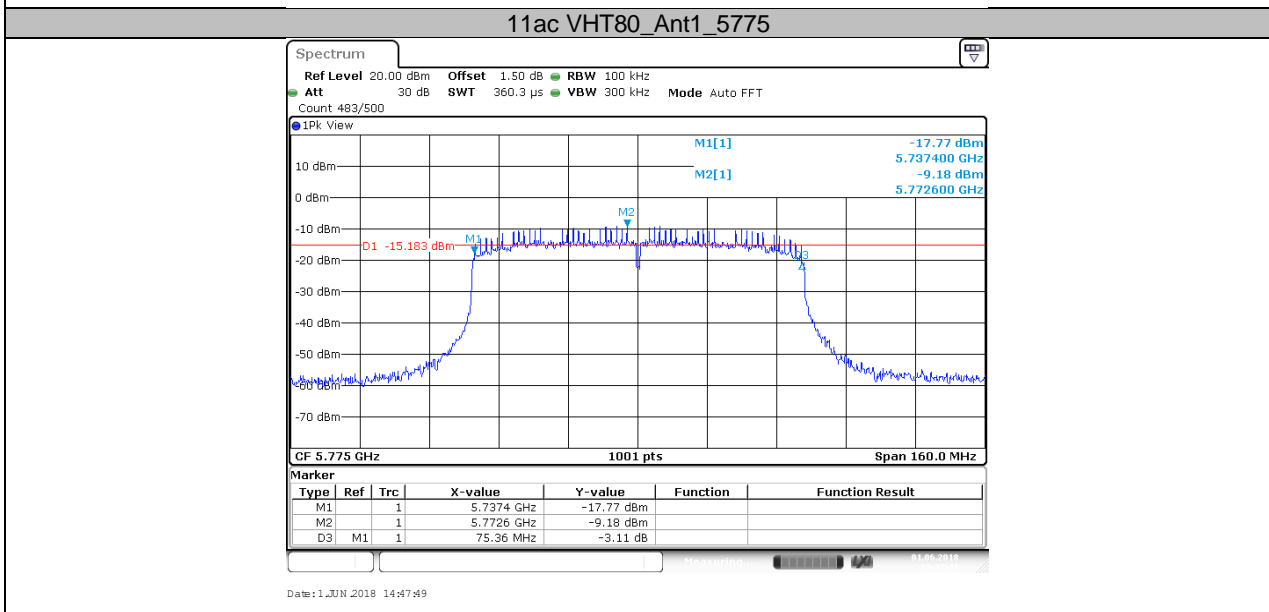
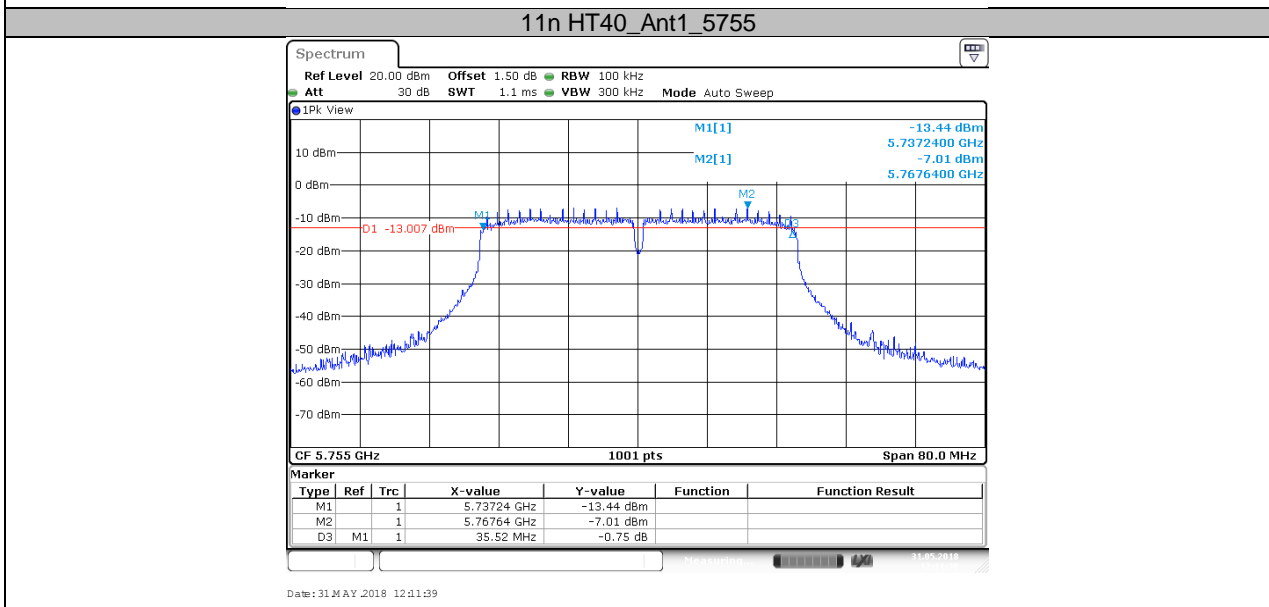
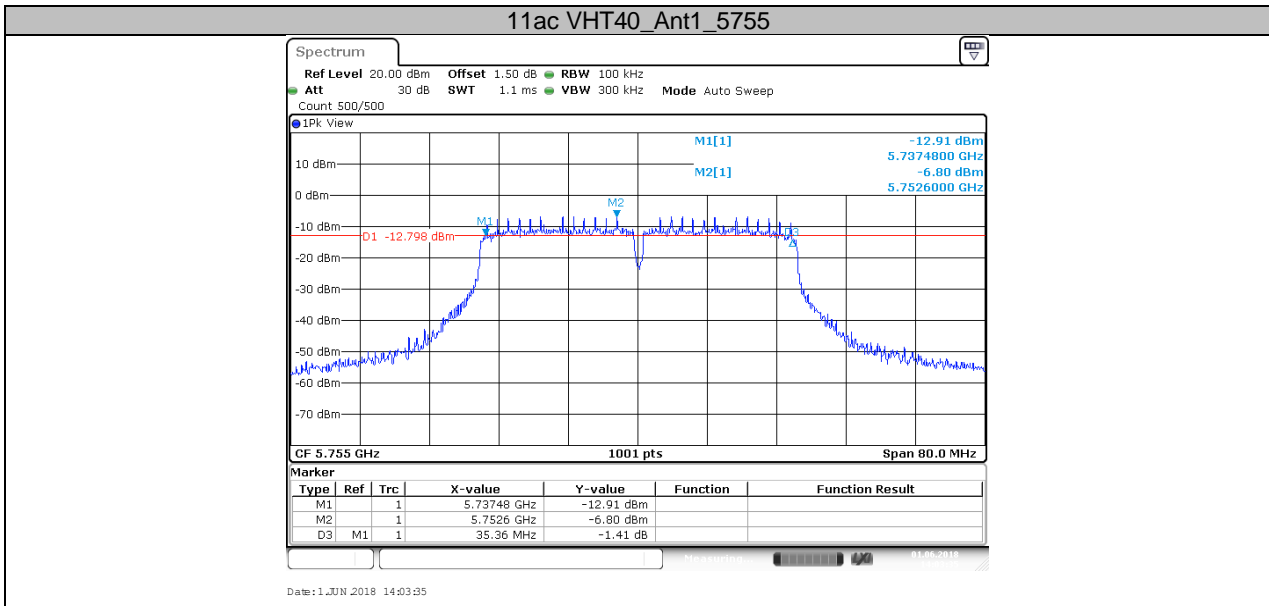
6dB Bandwidth Test Result

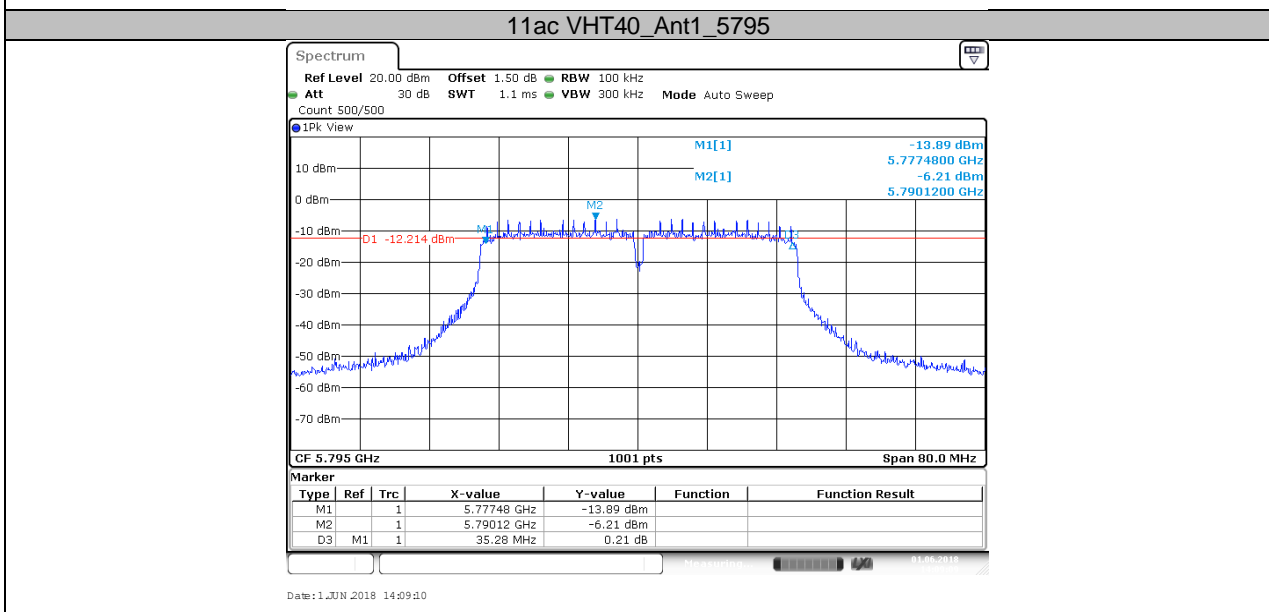
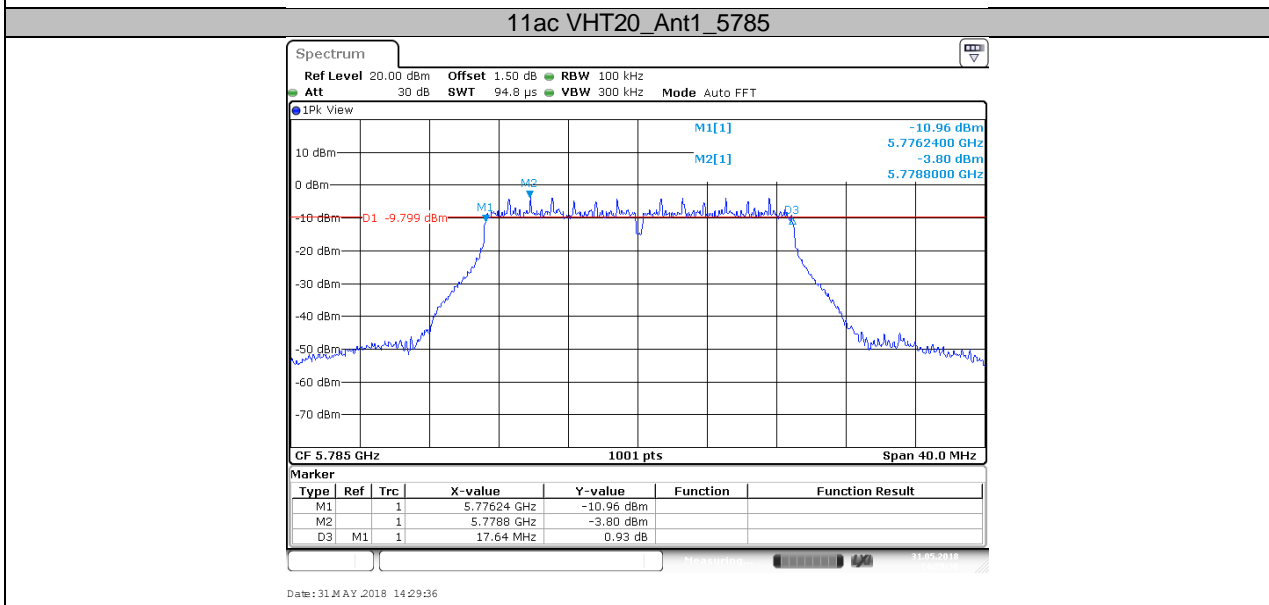
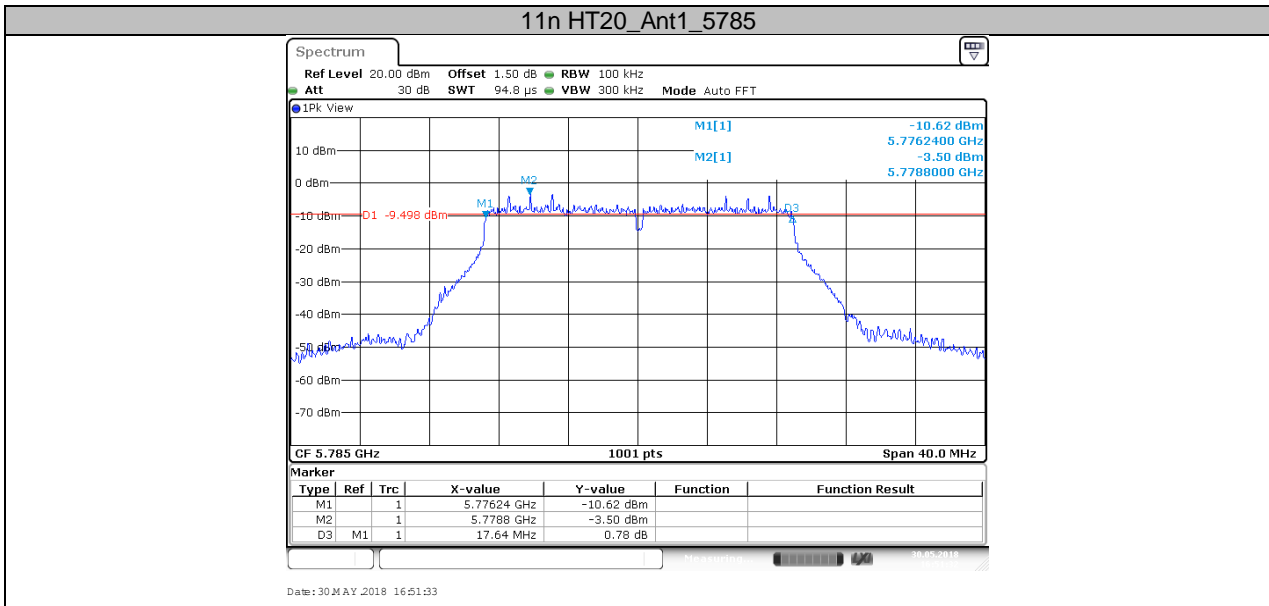
Test Mode	Antenna	Channel	6db EBW [MHz]	Limit[MHz]	Verdict
11a	Ant1	5745	16.440	0.5	PASS
		5785	16.440	0.5	PASS
		5825	16.440	0.5	PASS
11n HT20	Ant1	5745	17.640	0.5	PASS
11ac VHT20	Ant1	5745	17.640	0.5	PASS
11ac VHT40	Ant1	5755	35.360	0.5	PASS
11n HT40	Ant1	5755	35.520	0.5	PASS
11ac VHT80	Ant1	5775	75.360	0.5	PASS
11n HT20	Ant1	5785	17.640	0.5	PASS
11ac VHT20	Ant1	5785	17.640	0.5	PASS
11ac VHT40	Ant1	5795	35.280	0.5	PASS
11n HT40	Ant1	5795	35.520	0.5	PASS
11n HT20	Ant1	5825	17.640	0.5	PASS
11ac VHT20	Ant1	5825	17.640	0.5	PASS

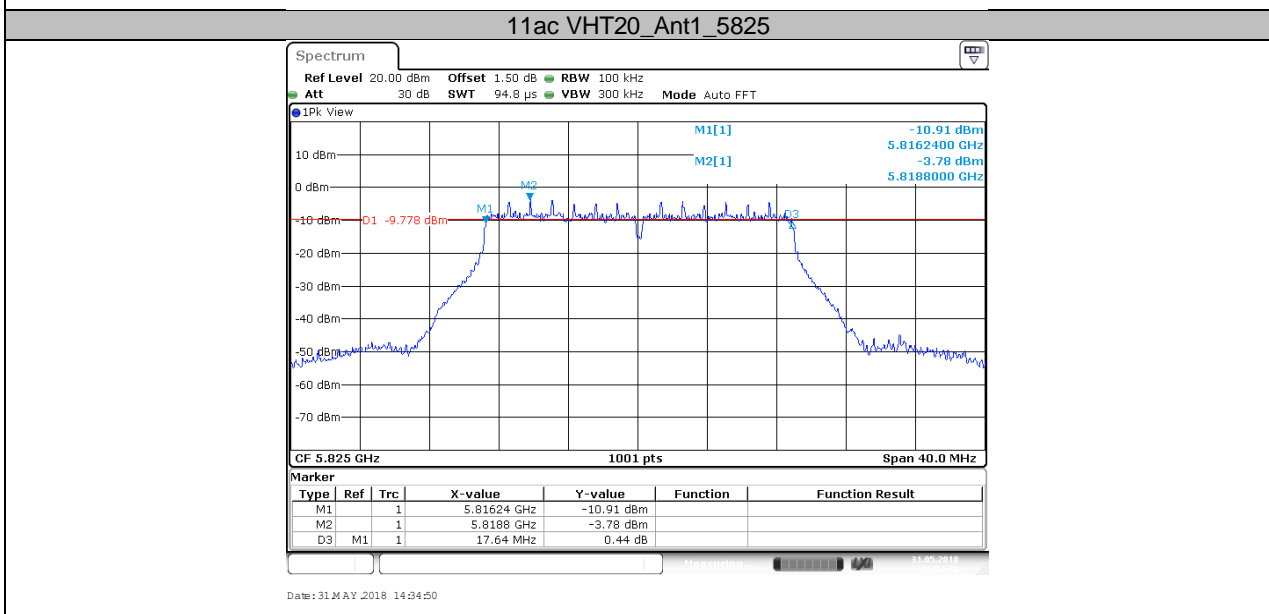
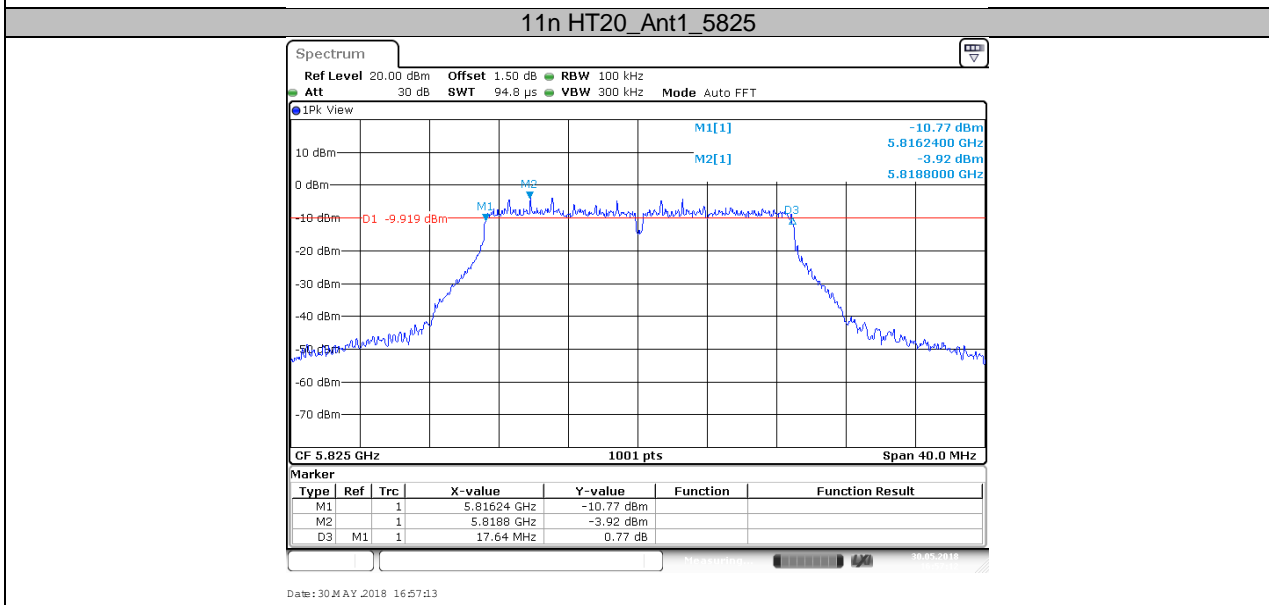
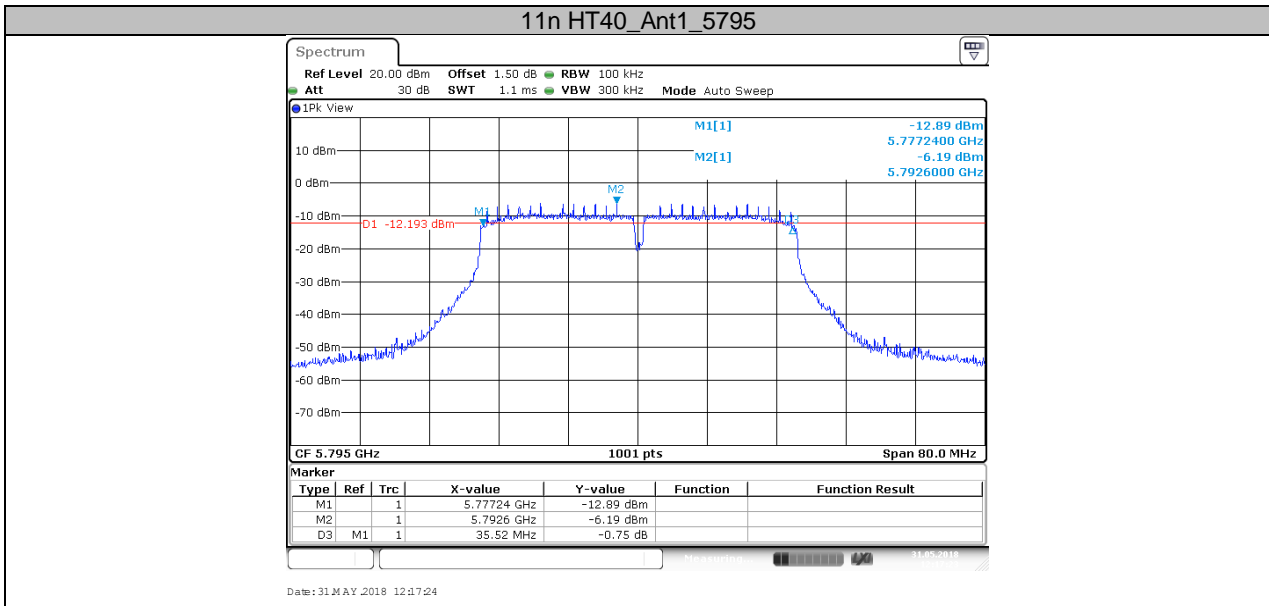
6dB Bandwidth Test Graphs











9.3 Maximum conducted output power

Test Method

According to KDB789033 D02

Limits: The maximum conducted output power over the frequency band of operation shall not exceed 250mW for 5.15-5.25GHz Band, 250mW for 5.25-5.35GHz, 5.47-5.725 GHz Band and 1W for 5.725-5.85GHz Band, provided the maximum antenna gain does not exceed 6dBi.

Note:

1. Maximum Conducted Output Power=Conducted Output Power + Correction Factor

Band	Duty cycle (%)	Correction factor
802.11a	98.38	0.07
802.11n HT20	96.22	0.16
802.11n HT40	92.49	0.33
802.11ac VHT20	83.54	0.78
802.11ac VHT40	92.49	0.33
802.11ac VHT80	96.97	0.13

Test result as below table

IEEE 802.11a modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5180	9.30	24.00
	Middle	5200	9.30	24.00
	High	5240	9.40	24.00
5.2G Band	Low	5260	9.60	24.00
	Middle	5280	9.70	24.00
	High	5320	9.50	24.00
5.5G Band	Low	5500	9.20	24.00
	Middle	5580	9.70	24.00
	High	5700	9.70	24.00
	High	5720	9.00	24.00
5.8G Band	Low	5745	9.70	30.00
	Middle	5785	10.60	30.00
	High	5825	9.70	30.00



IEEE 802.11n HT20 modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5180	9.00	24.00
	Middle	5200	8.80	24.00
	High	5240	8.80	24.00
5.2G Band	Low	5260	9.00	24.00
	Middle	5280	8.90	24.00
	High	5320	9.00	24.00
5.5G Band	Low	5500	8.60	24.00
	Middle	5580	8.80	24.00
	High	5700	8.70	24.00
	High	5720	8.70	24.00
5.8G Band	Low	5745	9.70	30.00
	Middle	5785	9.60	30.00
	High	5825	9.60	30.00

IEEE 802.11ac VHT20 modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5180	8.70	24.00
	Middle	5200	8.60	24.00
	High	5240	8.70	24.00
5.2G Band	Low	5260	8.70	24.00
	Middle	5280	9.00	24.00
	High	5320	9.00	24.00
5.5G Band	Low	5500	8.00	24.00
	Middle	5580	8.00	24.00
	High	5700	8.00	24.00
	High	5720	8.00	24.00
5.8G Band	Low	5745	9.00	30.00
	Middle	5785	10.00	30.00
	High	5825	9.00	30.00

IEEE 802.11n HT40 modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5190	10.00	24.00
	High	5230	9.90	24.00
5.2G Band	Low	5270	10.00	24.00
	High	5310	10.00	24.00
5.5G Band	Low	5510	9.50	24.00
	Middle	5550	9.50	24.00
	High	5670	9.90	24.00
	High	5710	8.50	24.00
5.8G Band	Low	5755	9.80	30.00
	High	5795	8.50	30.00

IEEE 802.11ac VHT40 modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5190	9.10	24.00
	High	5230	8.50	24.00
5.2G Band	Low	5270	8.90	24.00
	High	5310	9.20	24.00
5.5G Band	Low	5510	8.20	24.00
	Middle	5550	8.30	24.00
	High	5670	8.80	24.00
	High	5710	9.50	24.00
5.8G Band	Low	5755	8.70	30.00
	High	5795	8.50	30.00

IEEE 802.11ac VHT80 modulation Test Result

Band	Channel	Frequency (MHz)	Average Power (dBm)	Power Limit (dBm)
5.2G Band	Low	5210	9.10	24.00
5.2G Band	High	5290	8.10	24.00
5.5G Band	Low	5530	8.70	24.00
	Middle	5610	8.80	24.00
	High	5690	9.50	24.00
5.8G Band	High	5775	9.20	30.00

9.4 Maximum power spectral density

Test Method

According to KDB789033 D02

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the

above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth

specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

- a) Set $RBW \geq 1/T$, where T is defined in section II.B.I.a).
- b) Set $VBW \geq 3 RBW$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/RBW)$ to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
- d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10\log(1\text{MHz}/RBW)$ to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
- e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHz is available on nearly all spectrum analyzers.

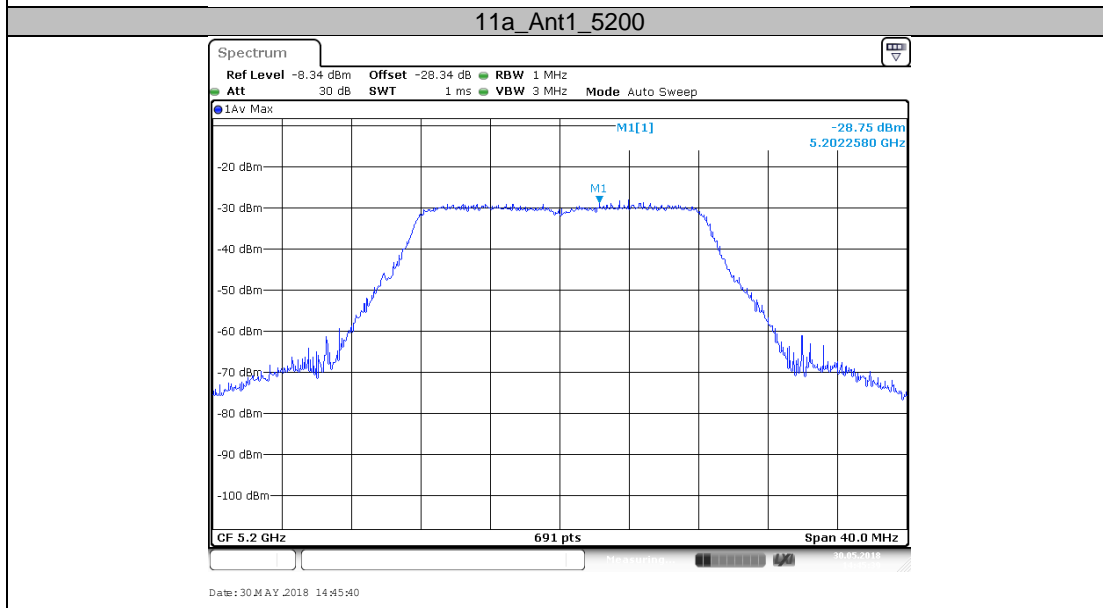
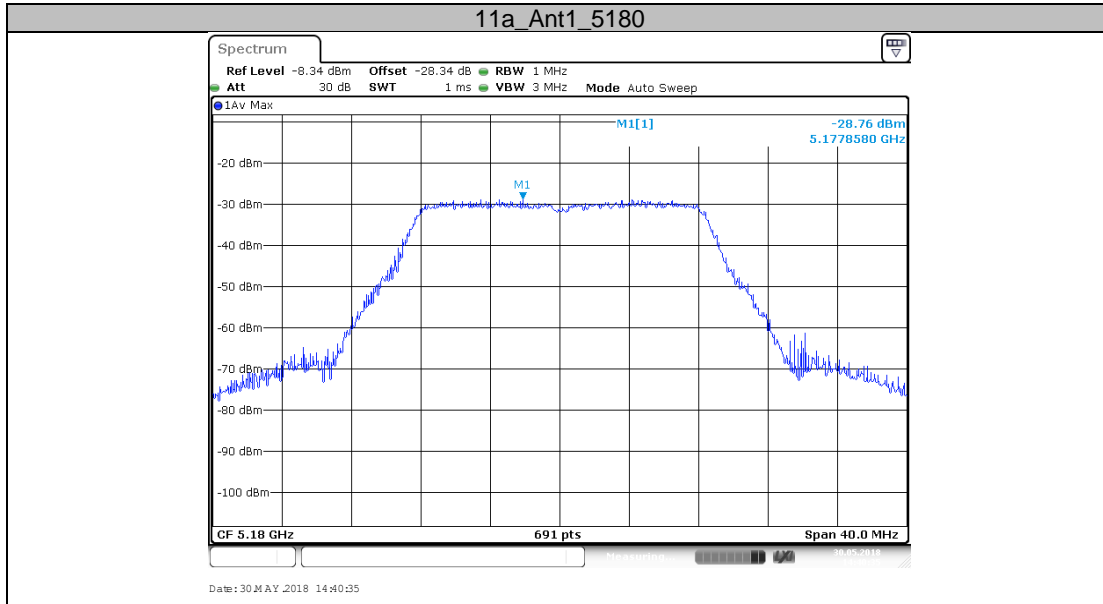
Limit: The maximum power spectral density shall not exceed 11dBm for the 5.15-5.25GHz, 5.25-5.35GHz, 5.47-5.725 GHz Band and 30dBm for the 5.8GHz Band in any 1 megahertz band.

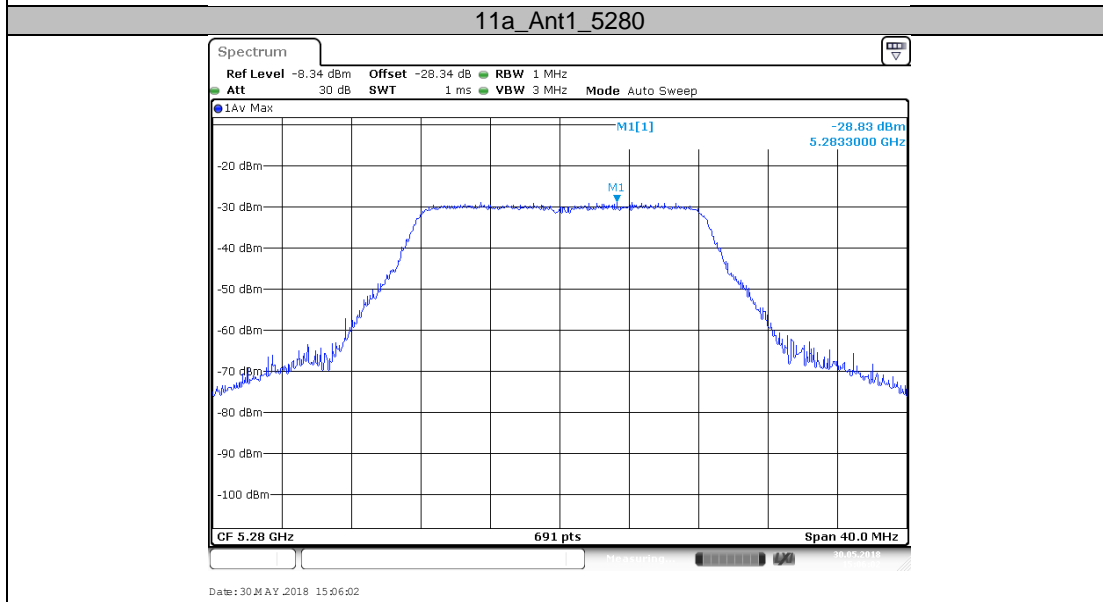
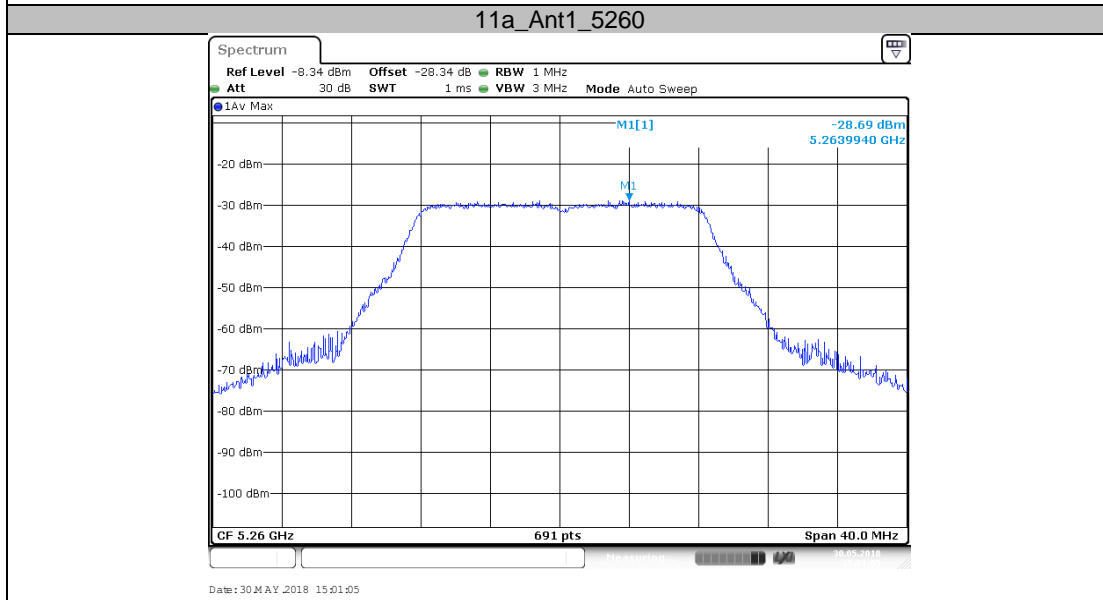
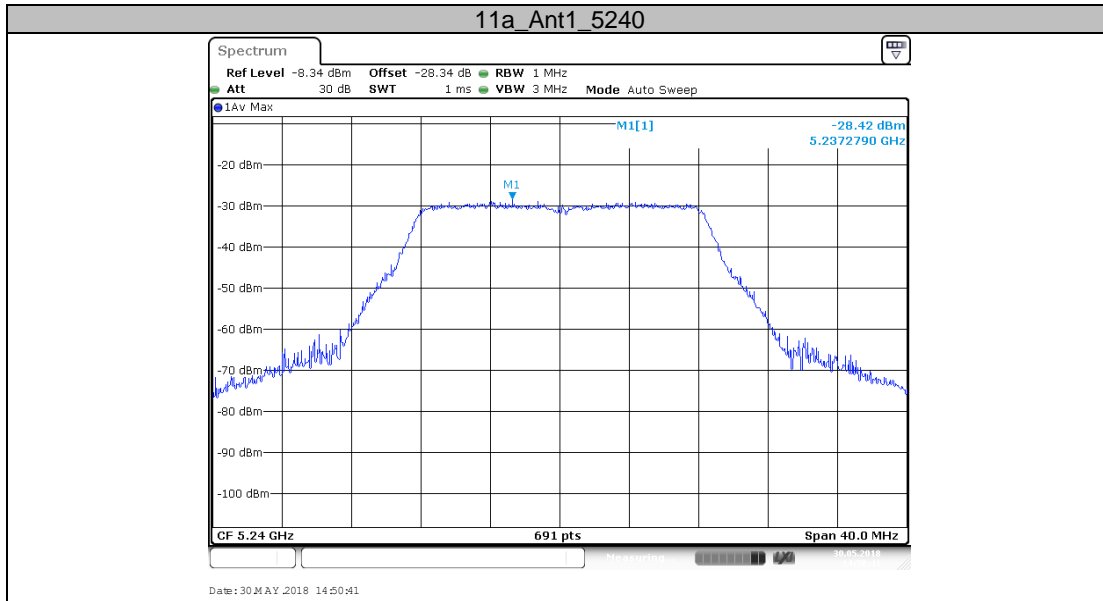
Test Result

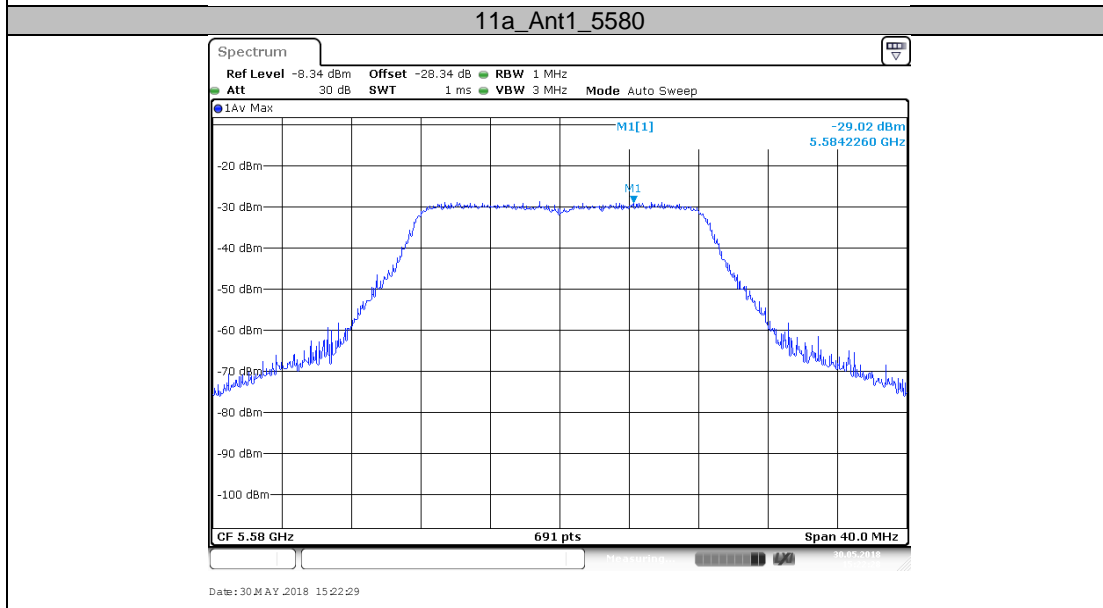
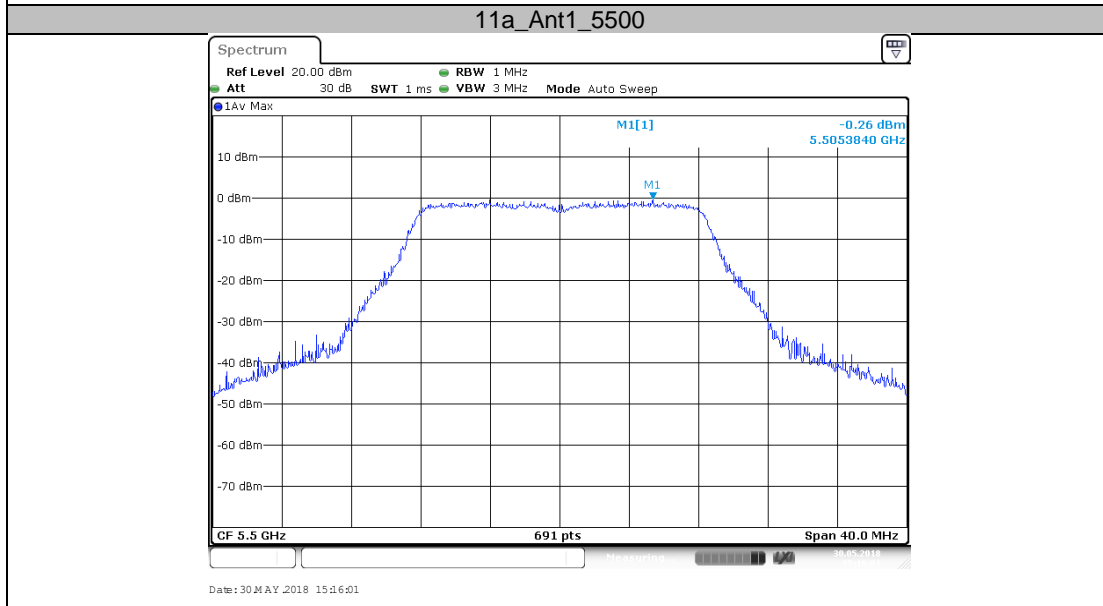
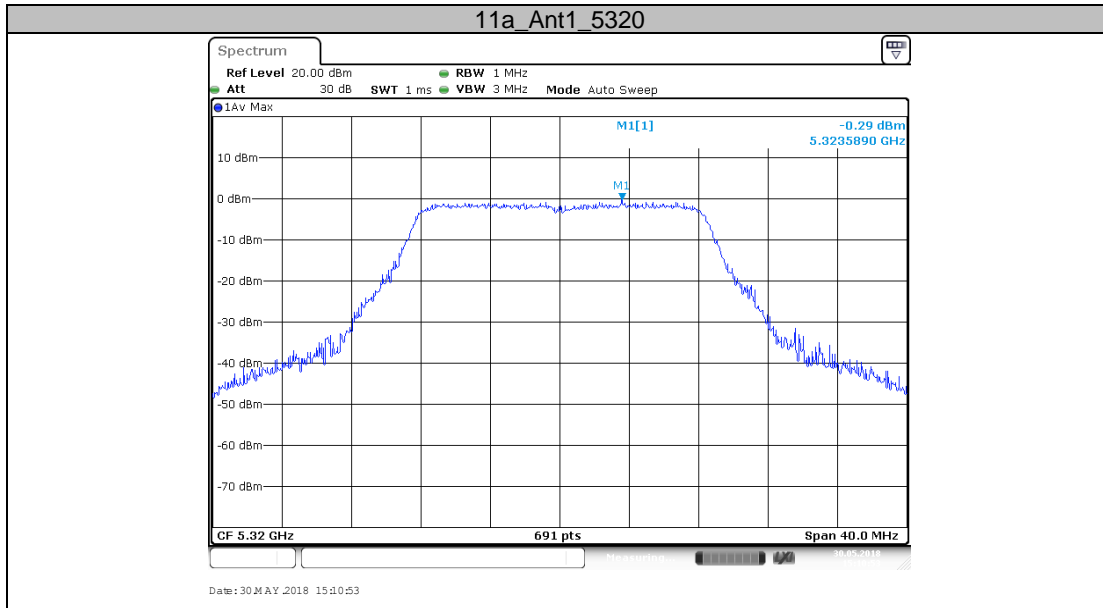
Test Mode	Antenna	Channel (MHz)	Result (dBm)	Limit	Verdict
11a	Ant1	5180	-28.76	11	PASS
		5200	-28.75	11	PASS
		5240	-28.42	11	PASS
		5260	-28.69	11	PASS
		5280	-28.83	11	PASS
		5320	-0.29	11	PASS
		5500	-0.26	11	PASS
		5580	-29.02	11	PASS
		5700	-28.87	11	PASS
		5745	-30.2	30	PASS
		5785	-30.02	30	PASS
5825	-29.92	30	PASS		
11ac VHT20	Ant1	5180	-27.54	11	PASS
11n HT20	Ant1	5180	-28.33	11	PASS
11ac VHT40	Ant1	5190	-28.06	11	PASS
11n HT40	Ant1	5190	-29.05	11	PASS
11n HT20	Ant1	5200	-27.86	11	PASS
11ac VHT20	Ant1	5200	-27.41	11	PASS
11ac VHT80	Ant1	5210	-30.81	11	PASS
11ac VHT40	Ant1	5230	-28.22	11	PASS
11n HT40	Ant1	5230	-29.87	11	PASS
11ac VHT20	Ant1	5240	-27.9	11	PASS
11n HT20	Ant1	5240	-28.28	11	PASS
11ac VHT20	Ant1	5260	-27.68	11	PASS
11n HT20	Ant1	5260	-28.53	11	PASS
11n HT40	Ant1	5270	-29.9	11	PASS
11ac VHT40	Ant1	5270	-28.16	11	PASS
11ac VHT20	Ant1	5280	-27.72	11	PASS
11n HT20	Ant1	5280	-28.16	11	PASS
11ac VHT80	Ant1	5290	-30.78	11	PASS
11n HT40	Ant1	5310	-29.62	11	PASS
11ac VHT40	Ant1	5310	-28.5	11	PASS
11n HT20	Ant1	5320	-28.01	11	PASS
11ac VHT20	Ant1	5320	-27.79	11	PASS
		5500	-27.31	11	PASS
11n HT20	Ant1	5500	-28.21	11	PASS
11n HT40	Ant1	5510	-29.46	11	PASS
11ac VHT40	Ant1	5510	-27.81	11	PASS
11ac VHT80	Ant1	5530	-30.78	11	PASS
11n HT40	Ant1	5550	-29.89	11	PASS
11ac VHT40	Ant1	5550	-28.31	11	PASS
11ac VHT20	Ant1	5580	-27.48	11	PASS
11n HT20	Ant1	5580	-28.31	11	PASS
11ac VHT80	Ant1	5610	-32.84	11	PASS
11ac VHT40	Ant1	5670	-28.23	11	PASS
11n HT40	Ant1	5670	-29.24	11	PASS
11ac VHT80	Ant1	5690_UNII-2C	-38.03	11	PASS
		5690_UNII-3	-38.86	11	PASS
11n HT20	Ant1	5700	-27.81	11	PASS
11ac VHT20	Ant1	5700	-27.5	11	PASS
11ac VHT40	Ant1	5710_UNII-2C	-33.86	11	PASS
		5710_UNII-3	-35.47	11	PASS
11n HT20	Ant1	5745	-30.01	30	PASS
11ac VHT20	Ant1	5745	-29.74	30	PASS
11ac VHT40	Ant1	5755	-31.25	30	PASS
11n HT40	Ant1	5755	-32.67	30	PASS

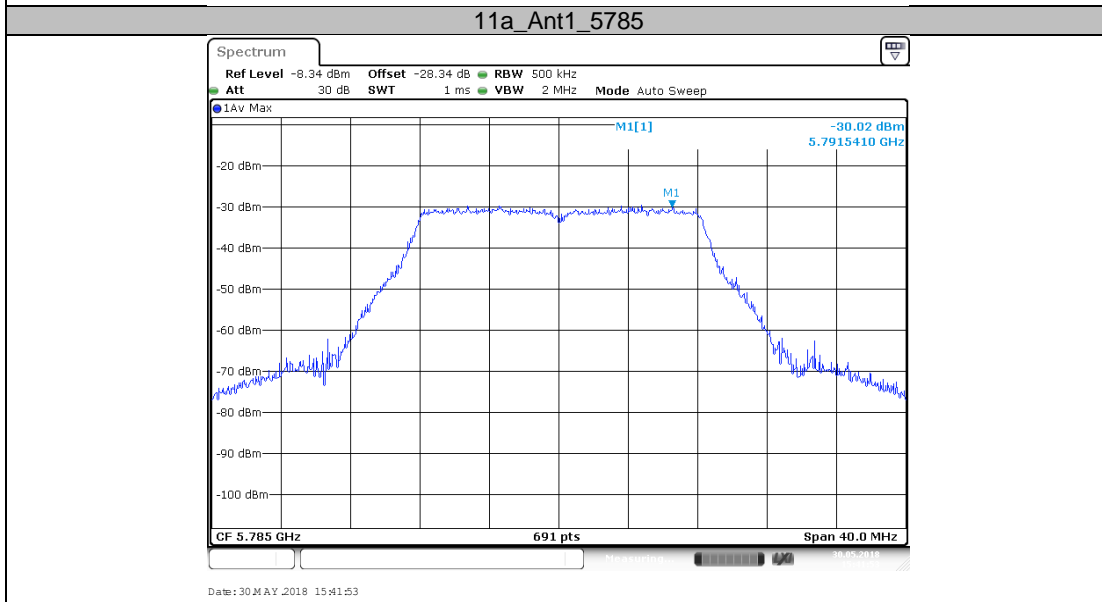
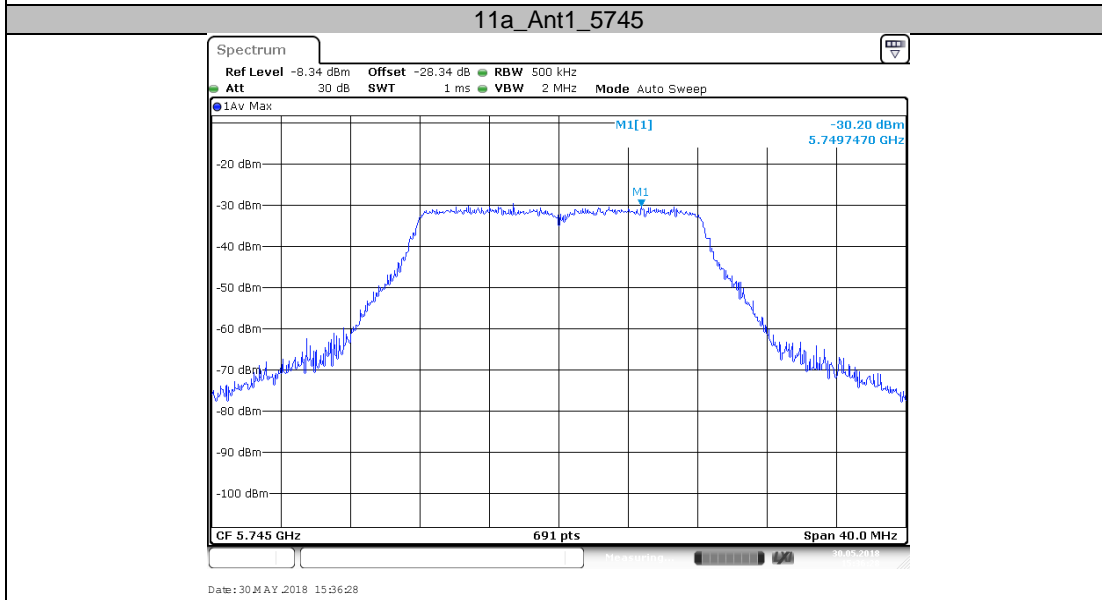
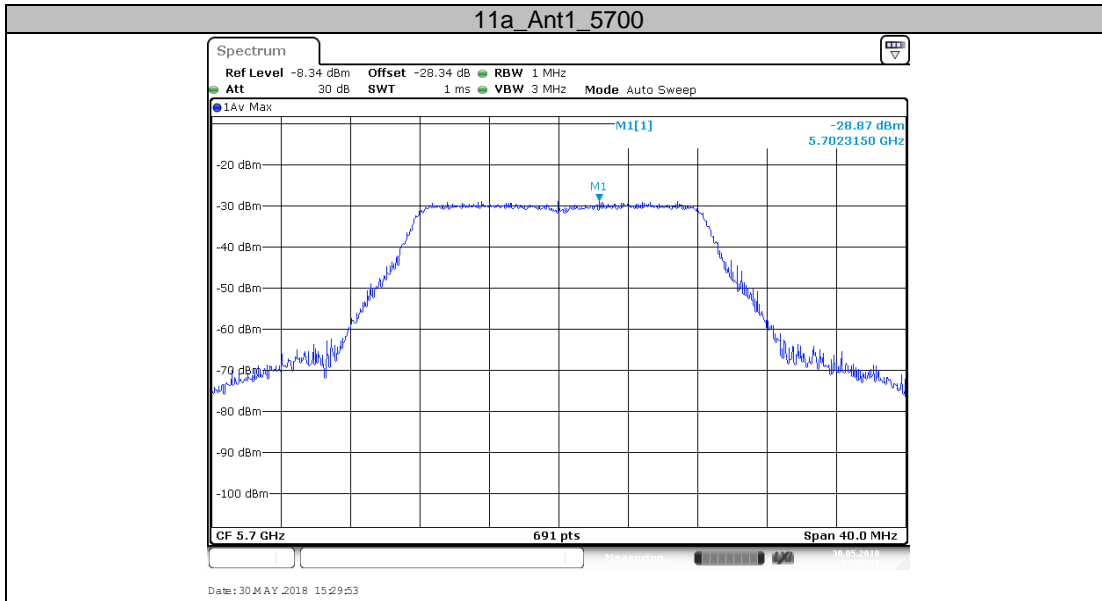
11ac VHT80	Ant1	5775	-33.57	30	PASS
11n HT20	Ant1	5785	-29.57	30	PASS
11ac VHT20	Ant1	5785	-29.44	30	PASS
11ac VHT40	Ant1	5795	-30.76	30	PASS
11n HT40	Ant1	5795	-32.44	30	PASS
11n HT20	Ant1	5825	-29.97	30	PASS
11ac VHT20	Ant1	5825	-29.36	30	PASS

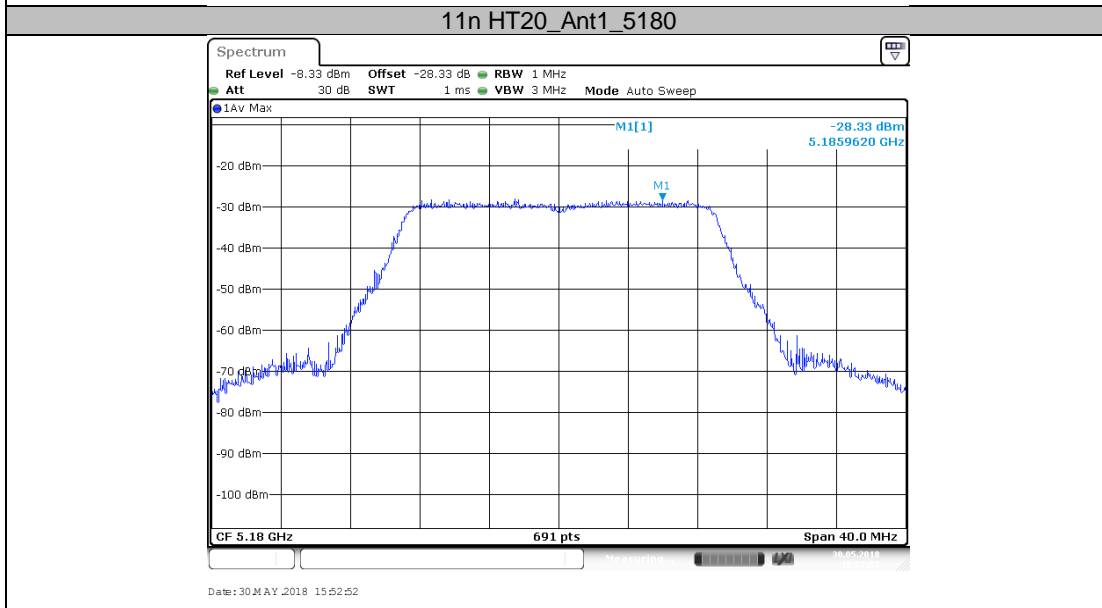
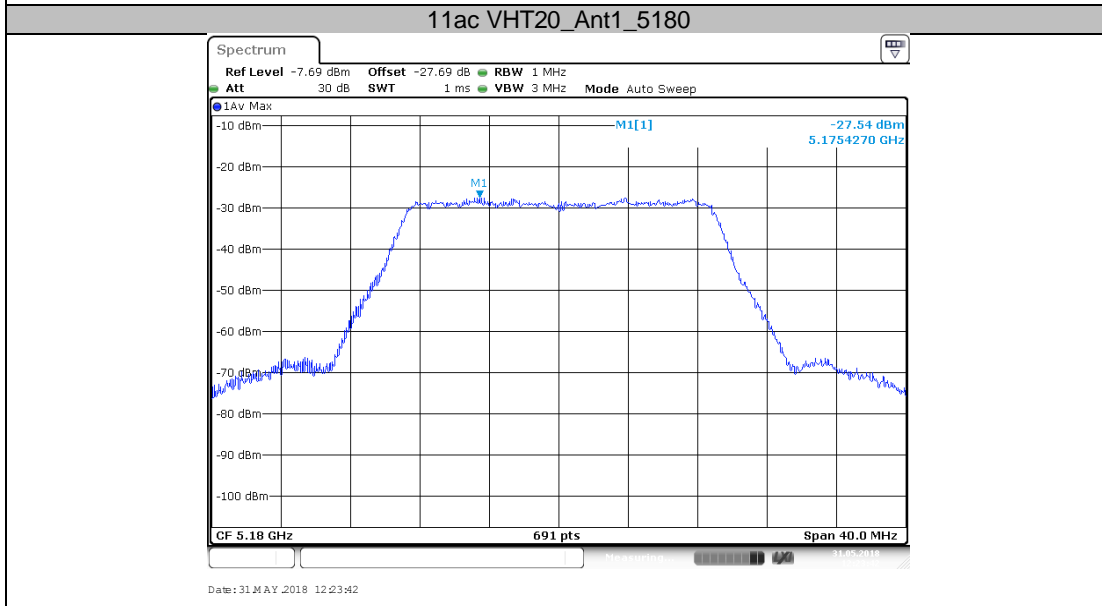
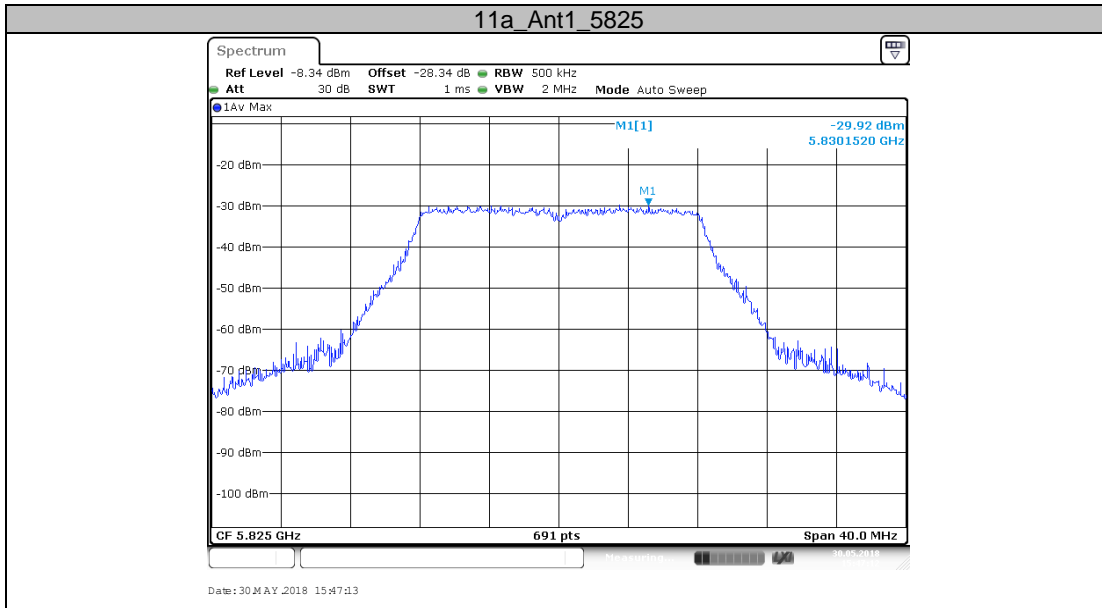
Test Graphs

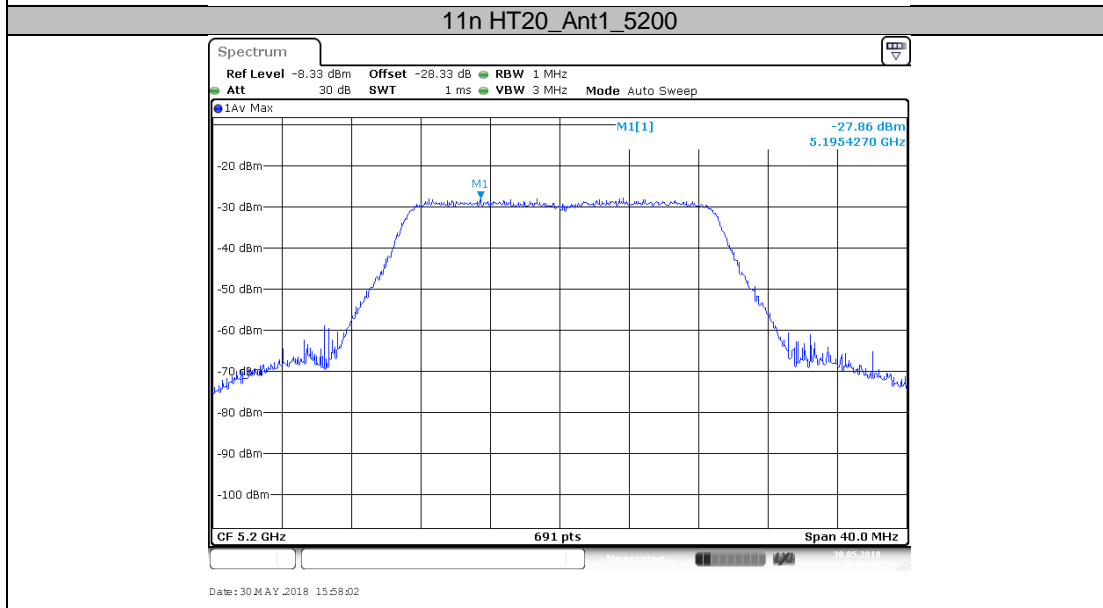
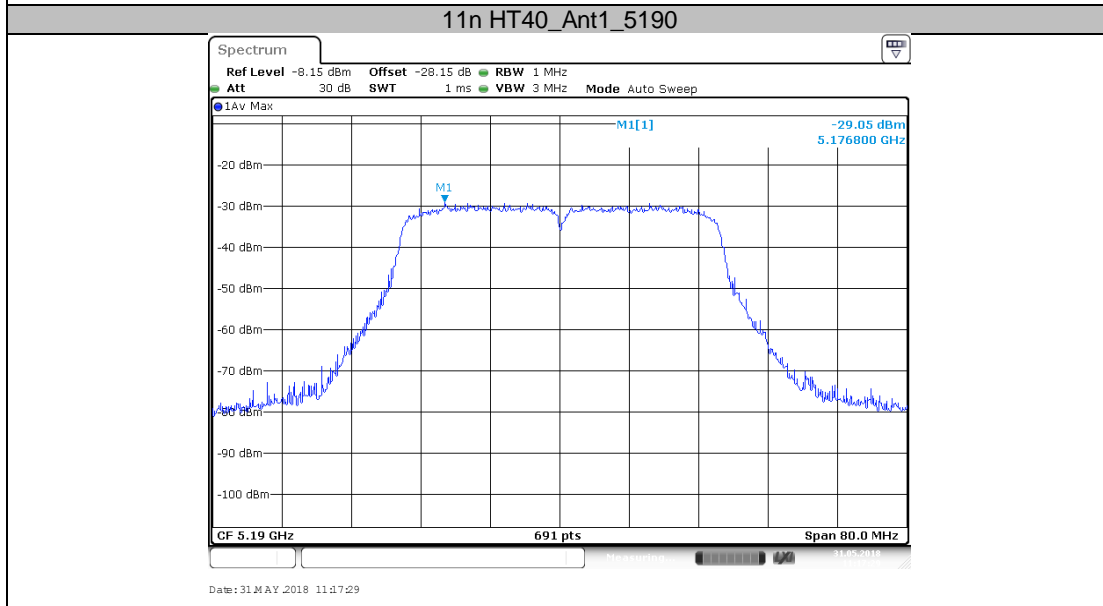
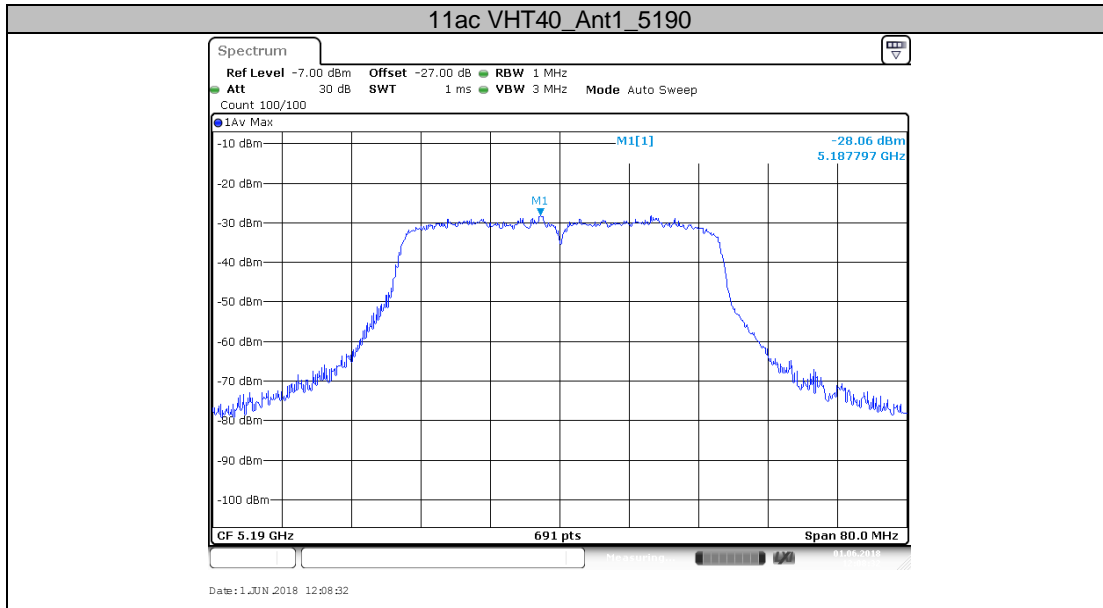


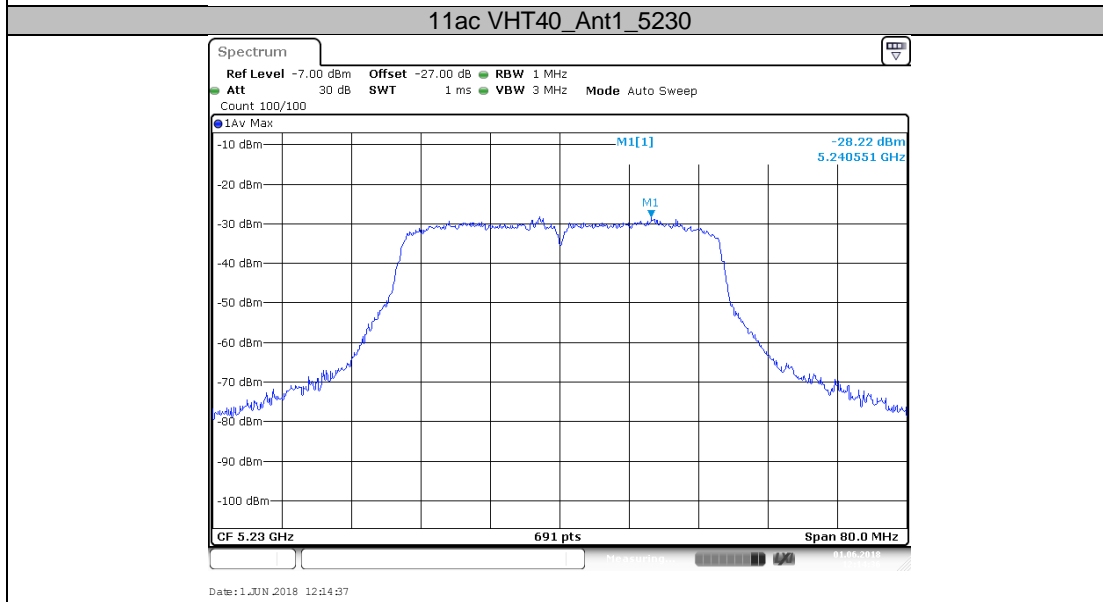
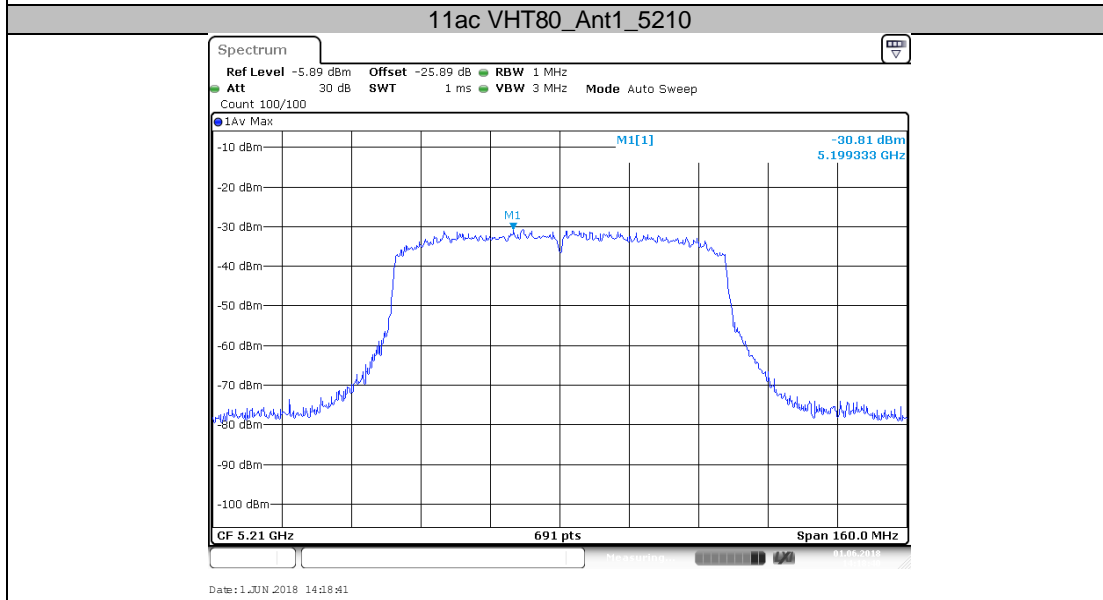
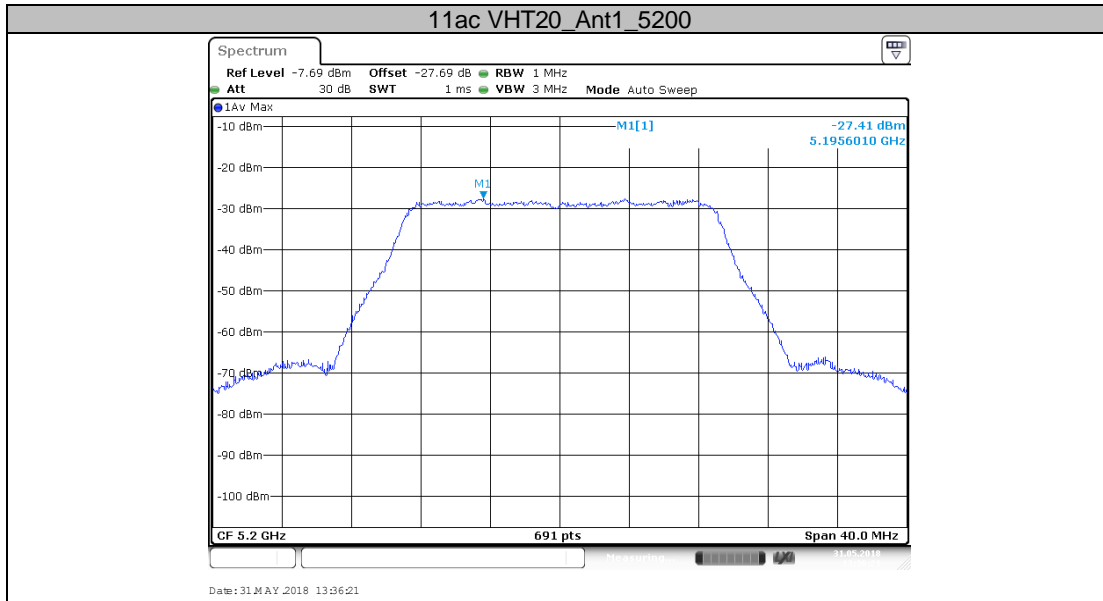


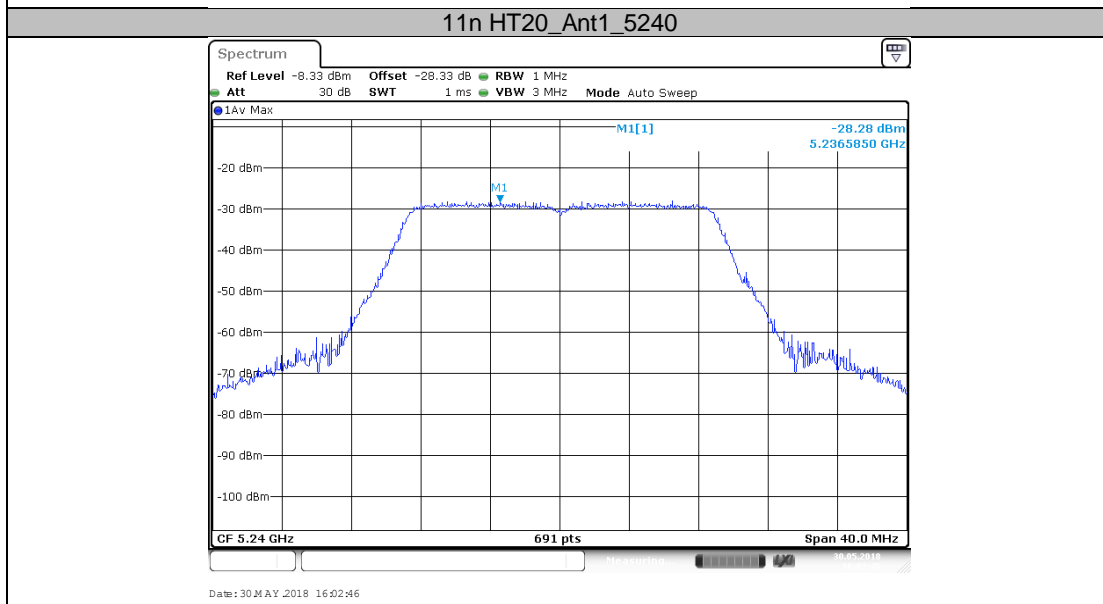
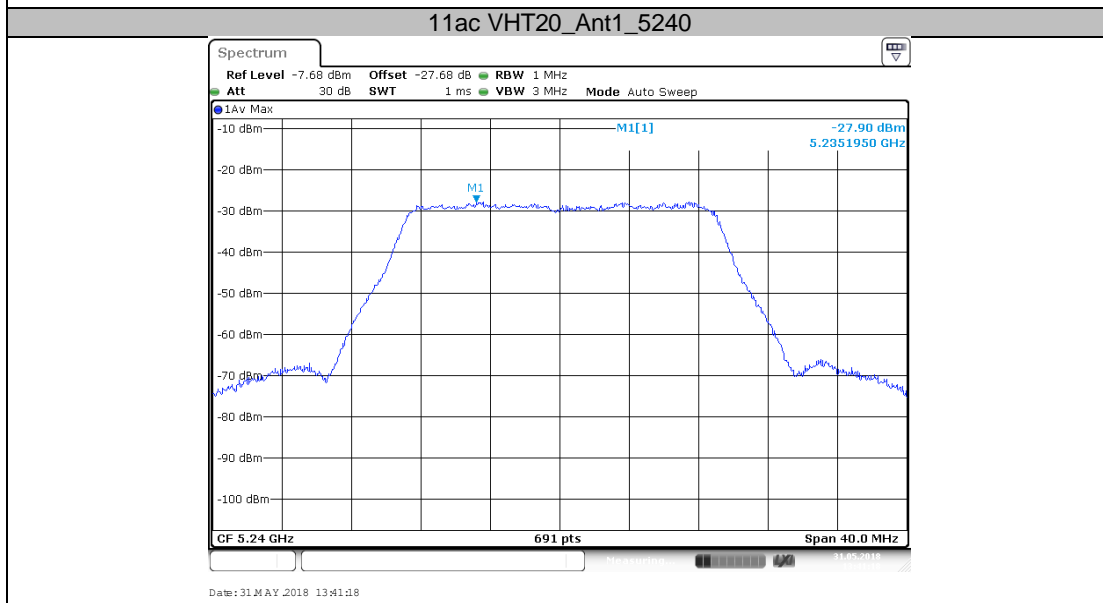
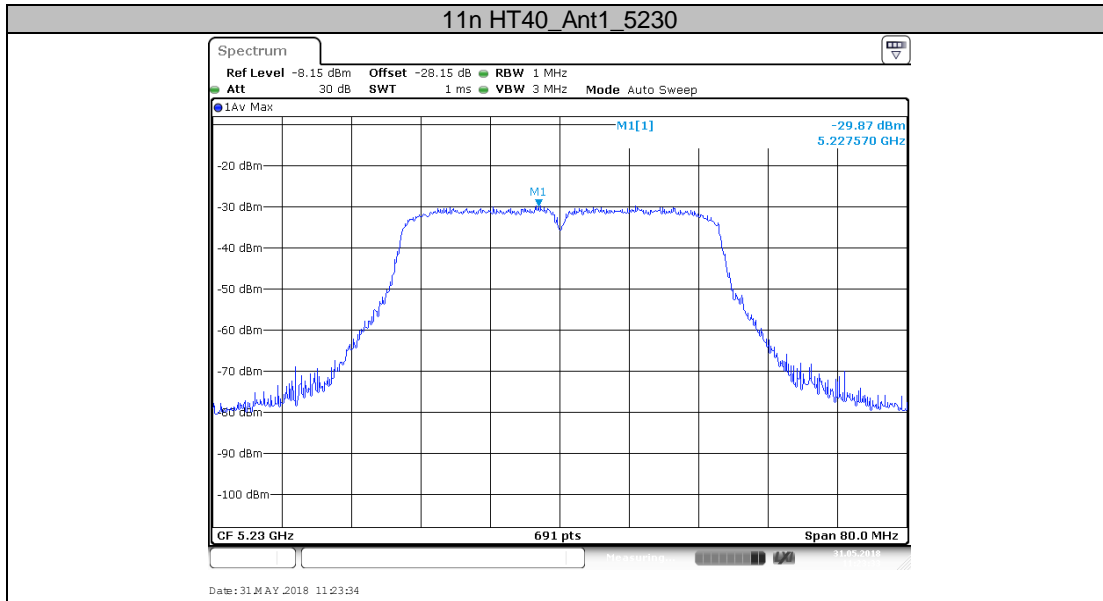


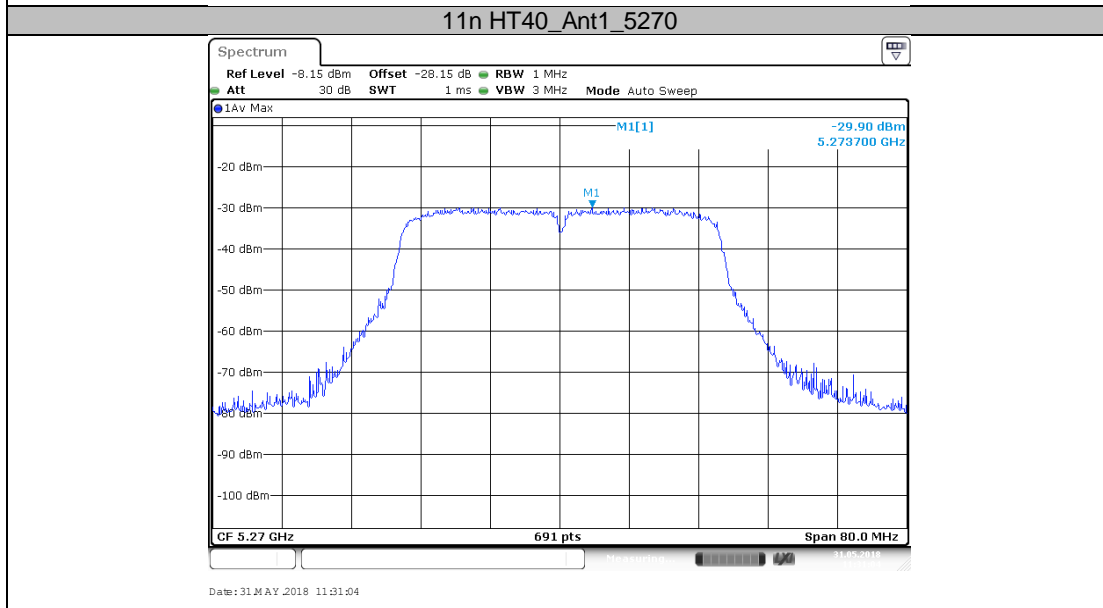
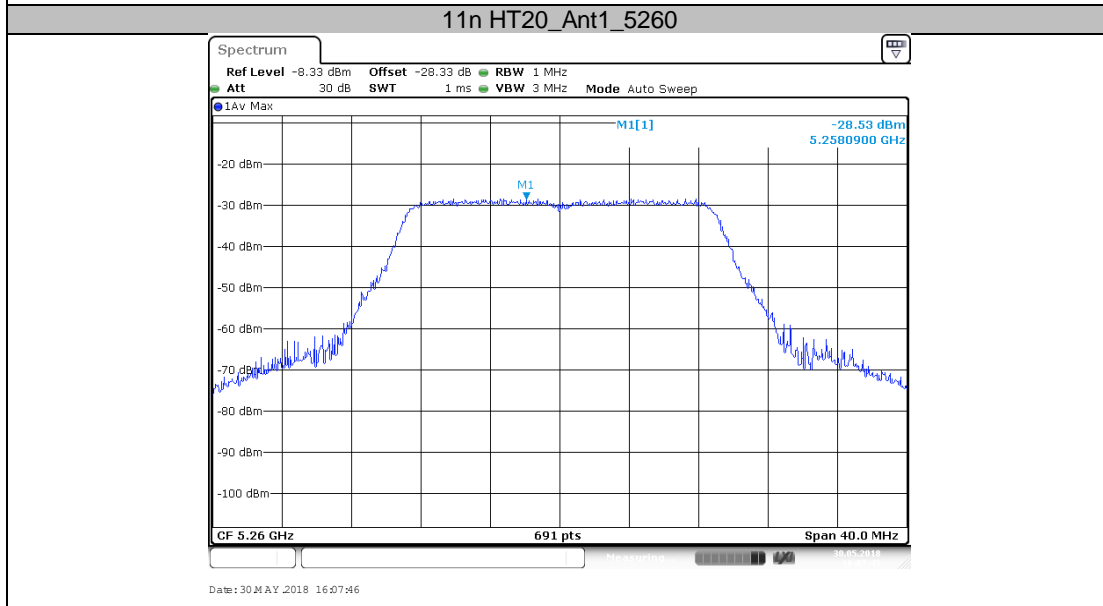
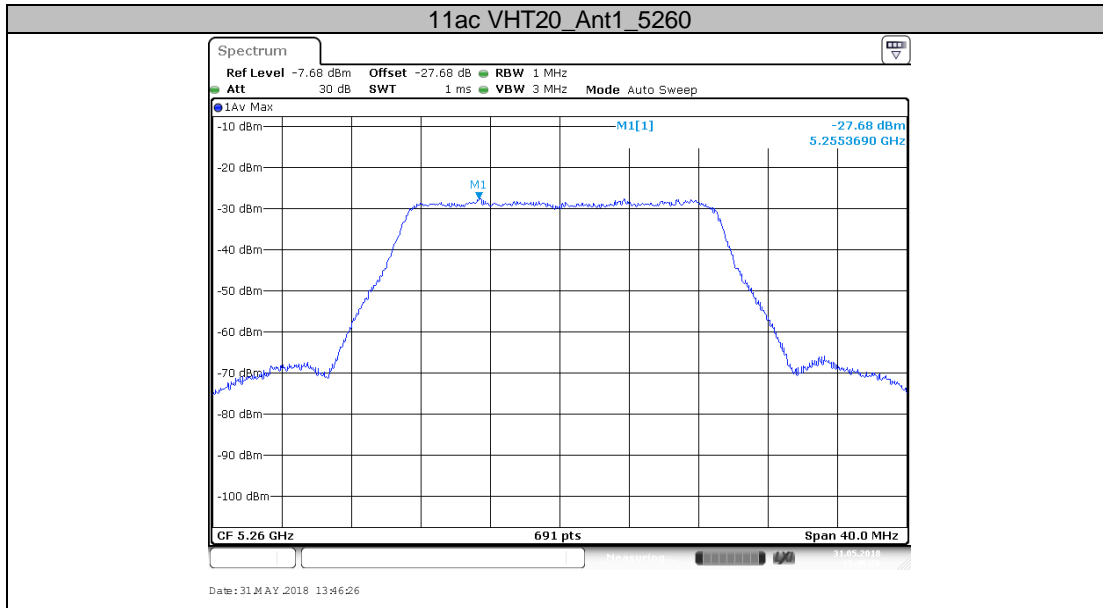


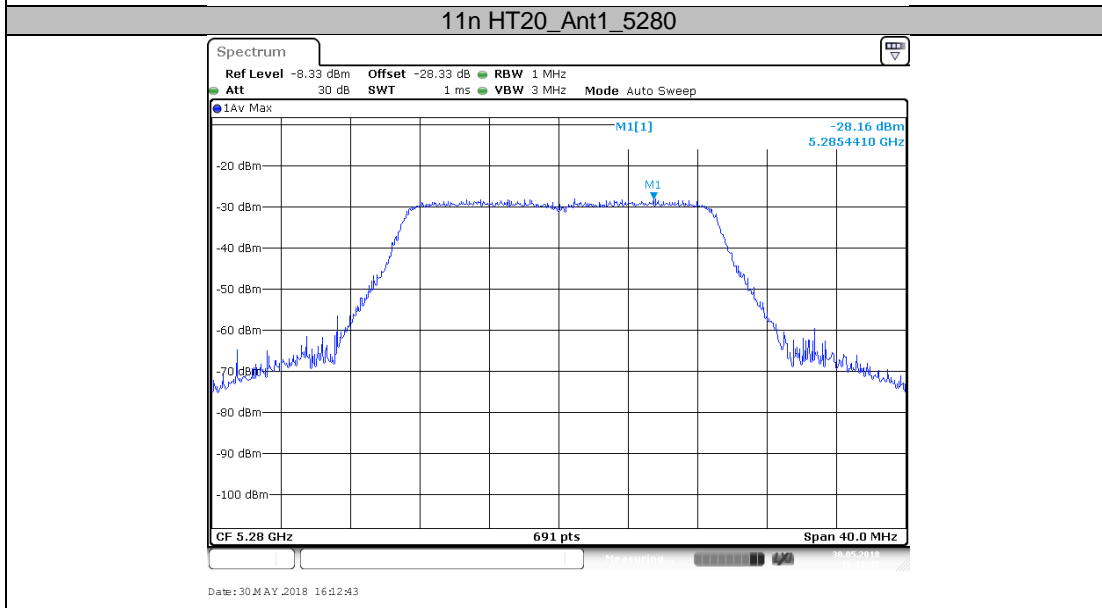
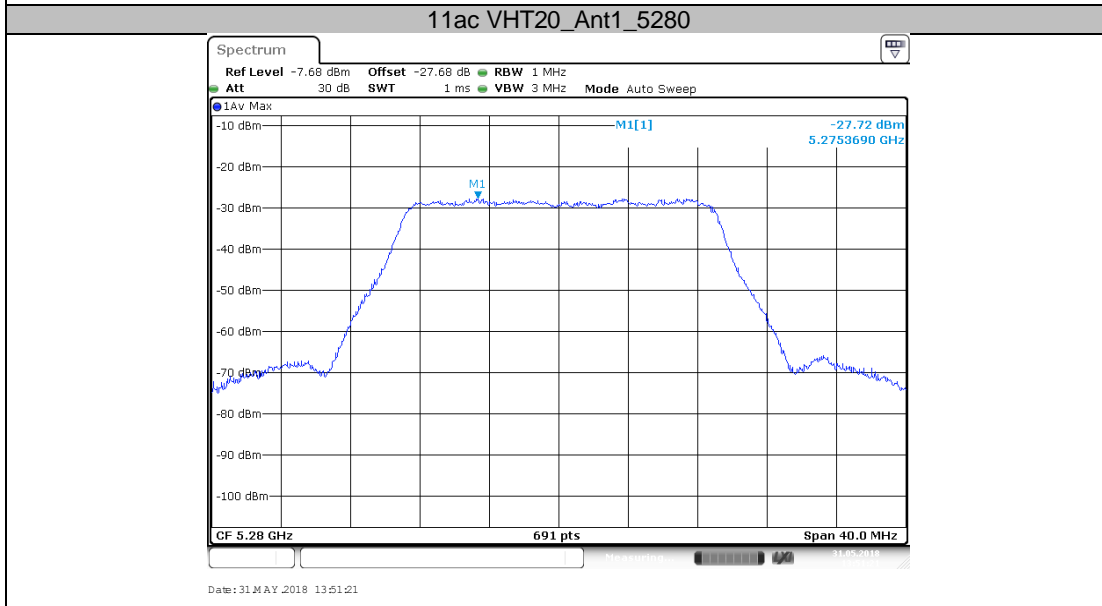
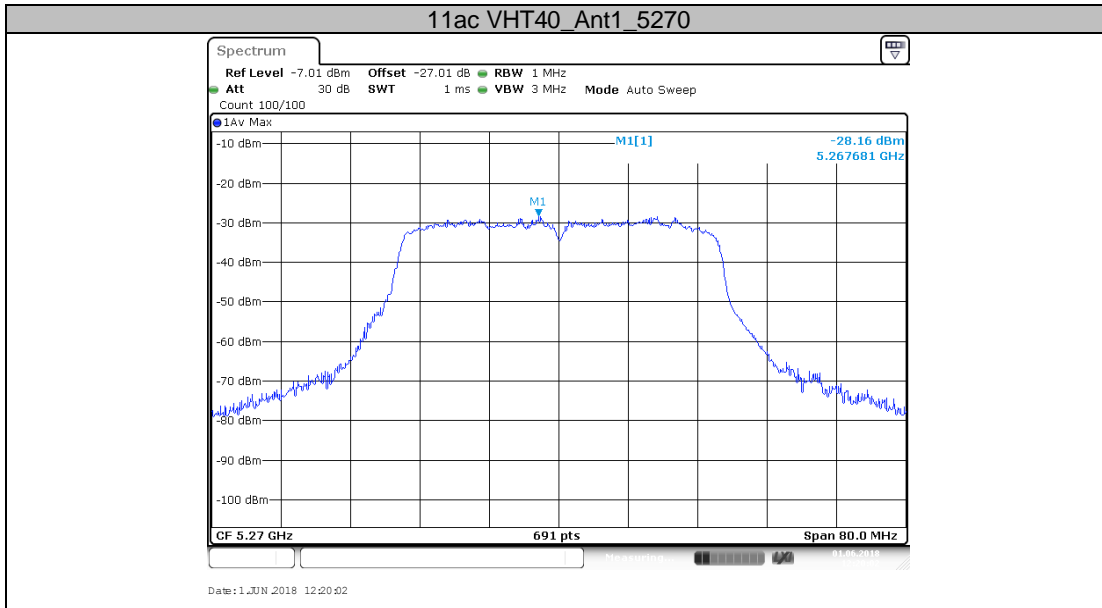


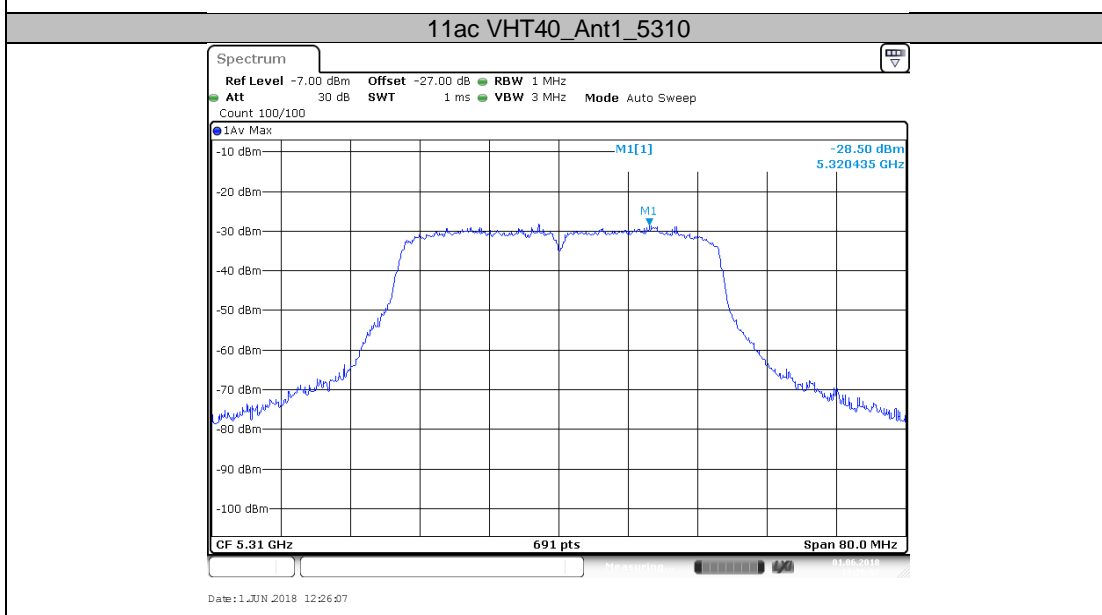
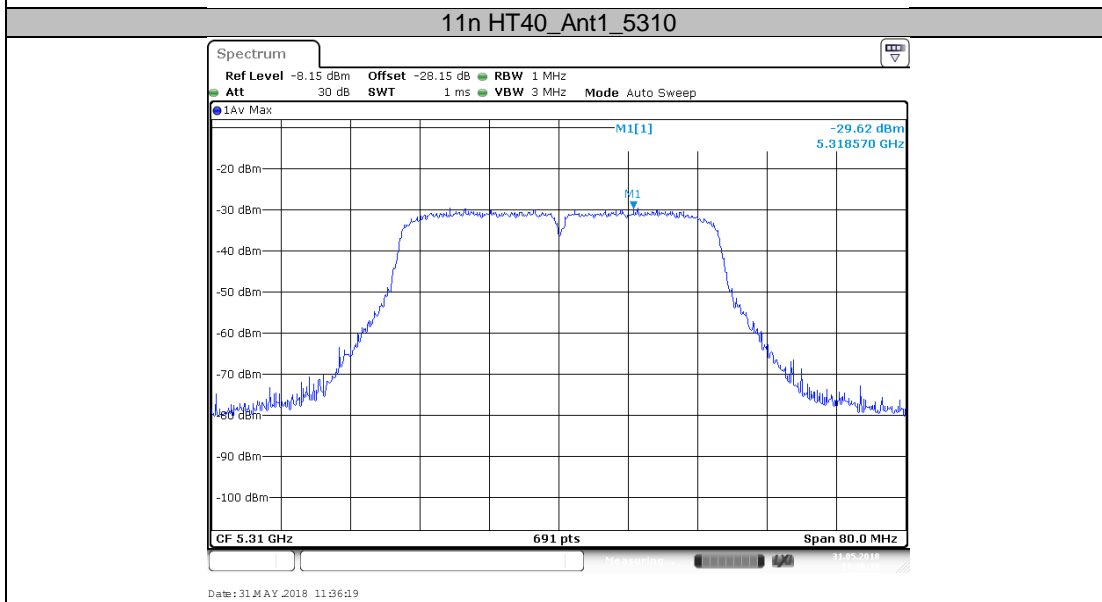
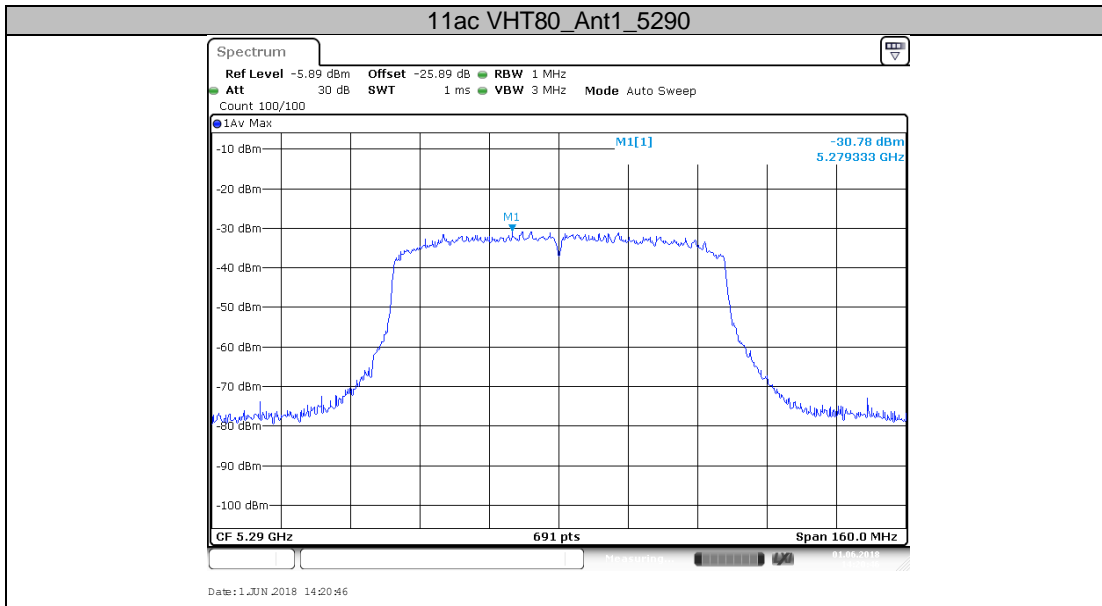


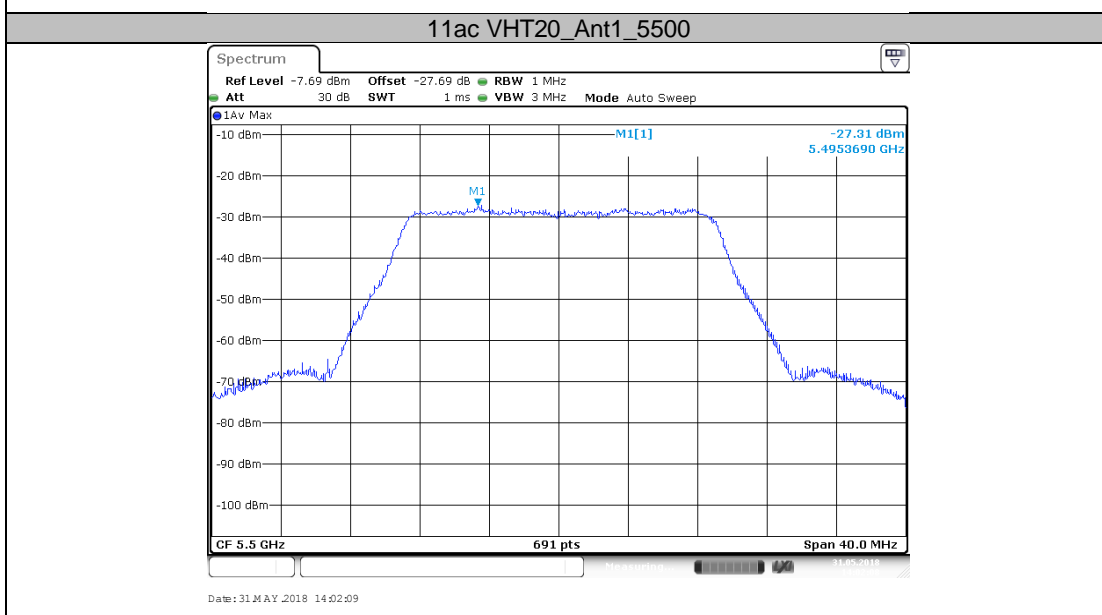
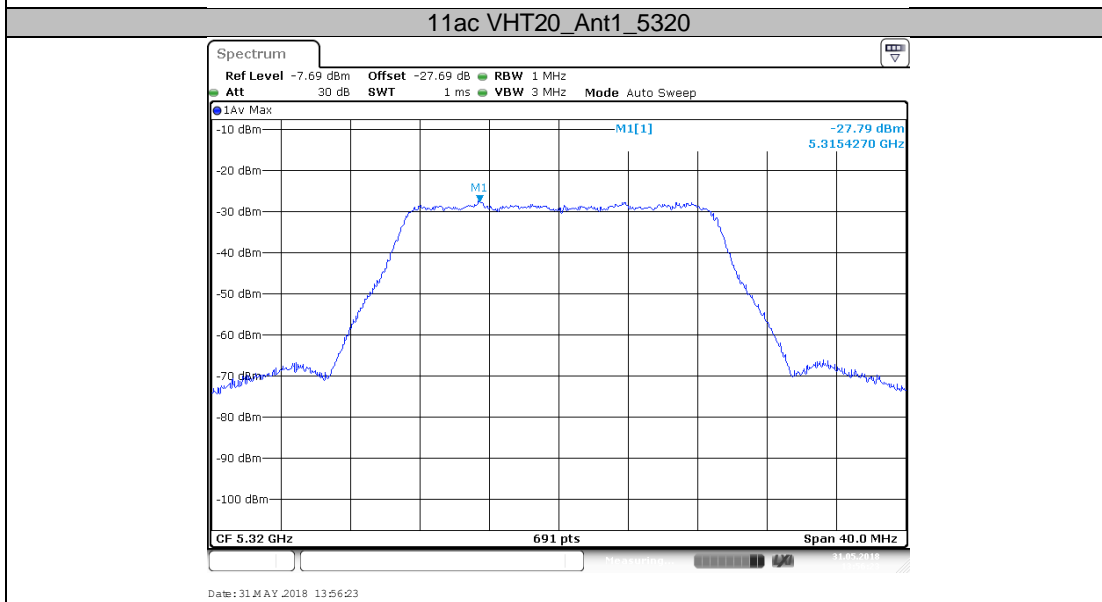
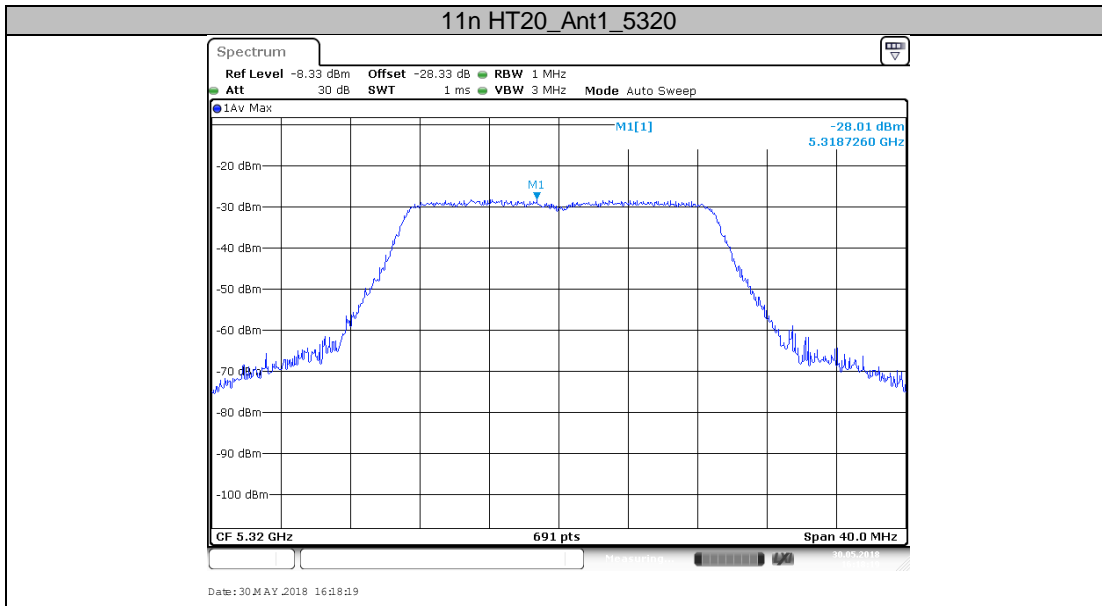


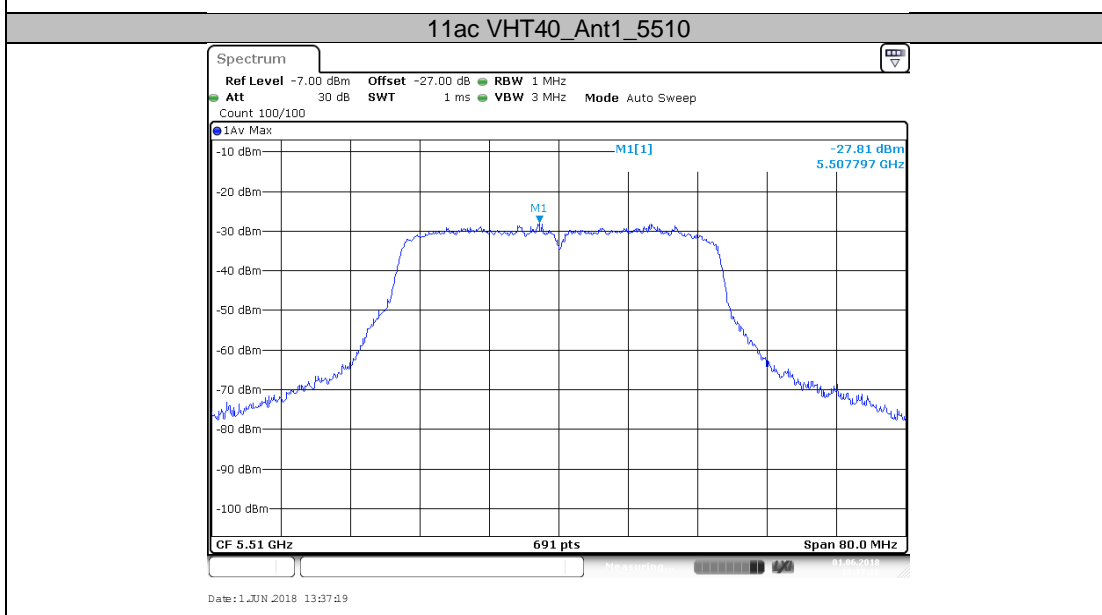
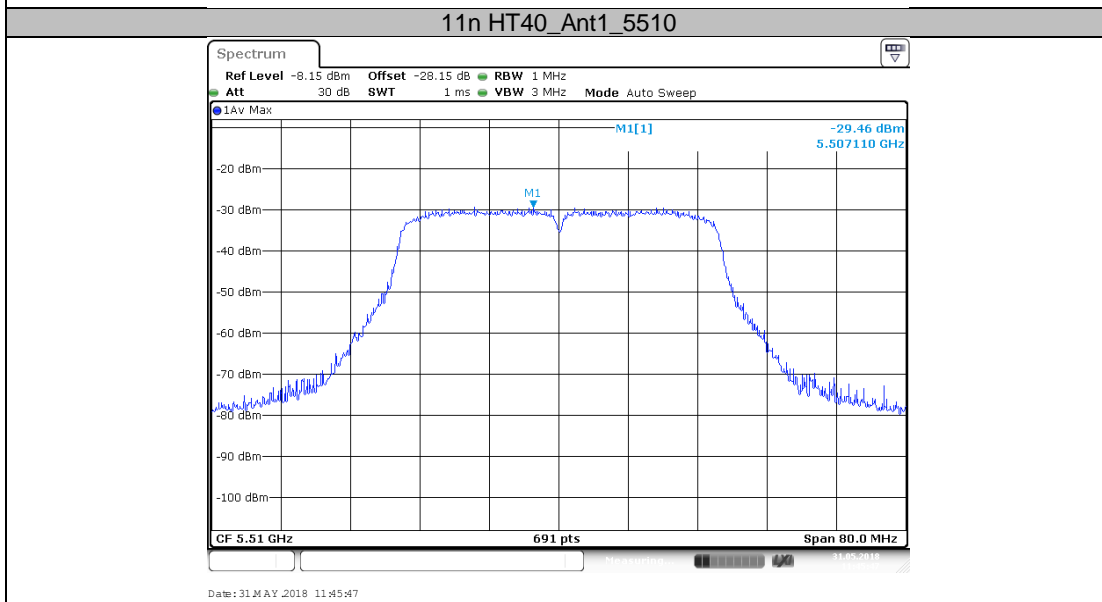
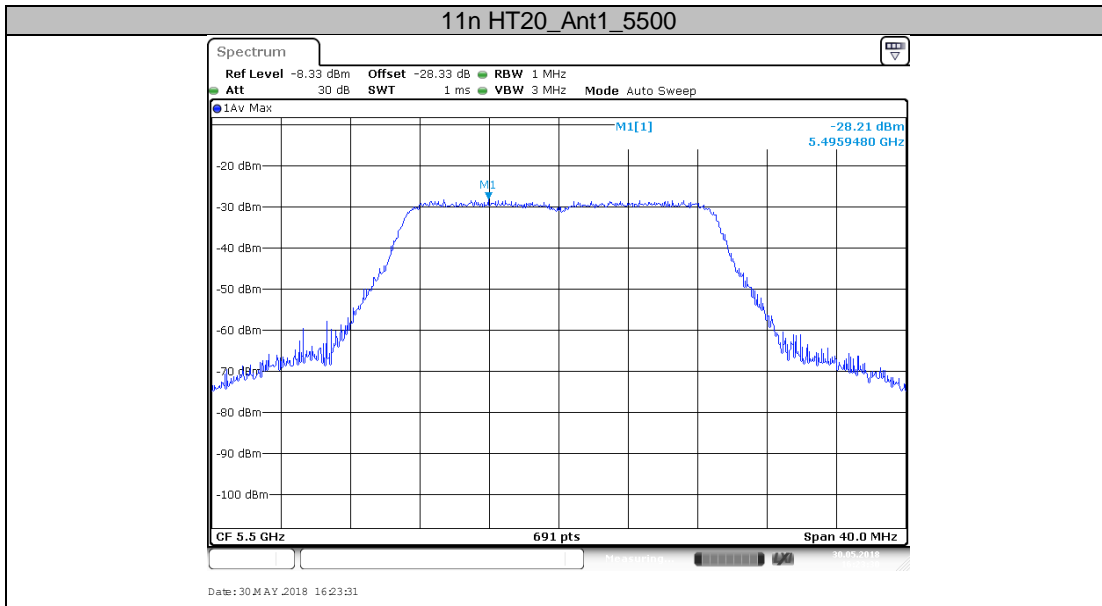


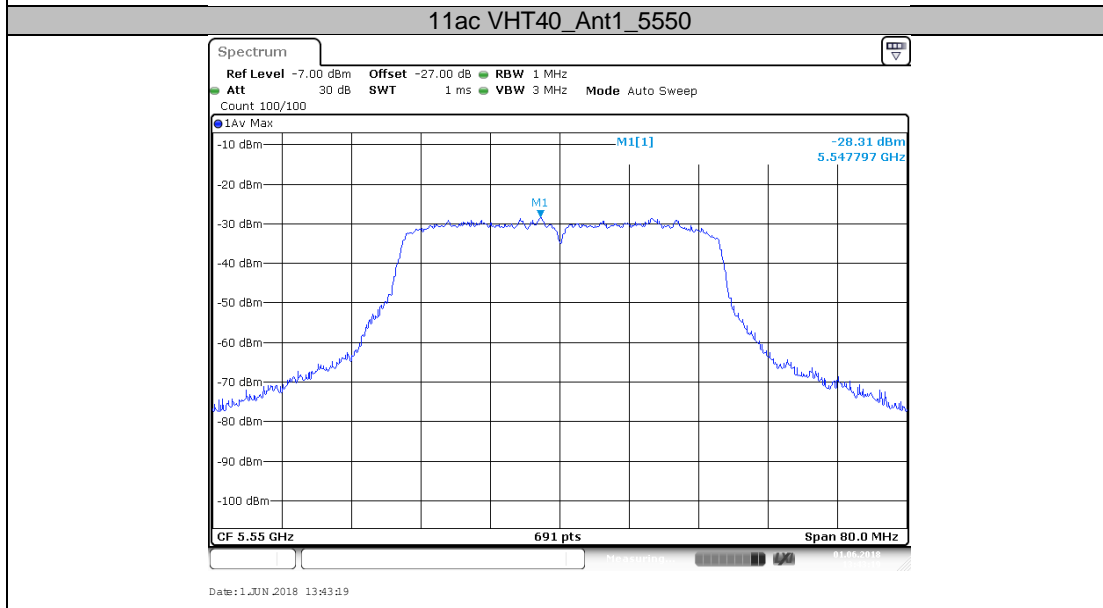
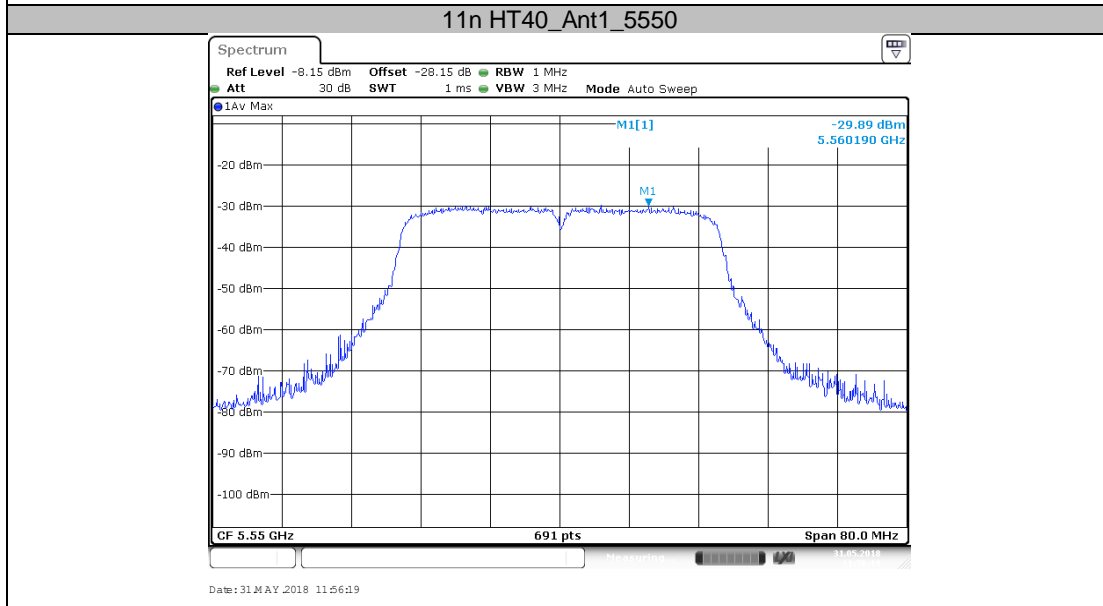
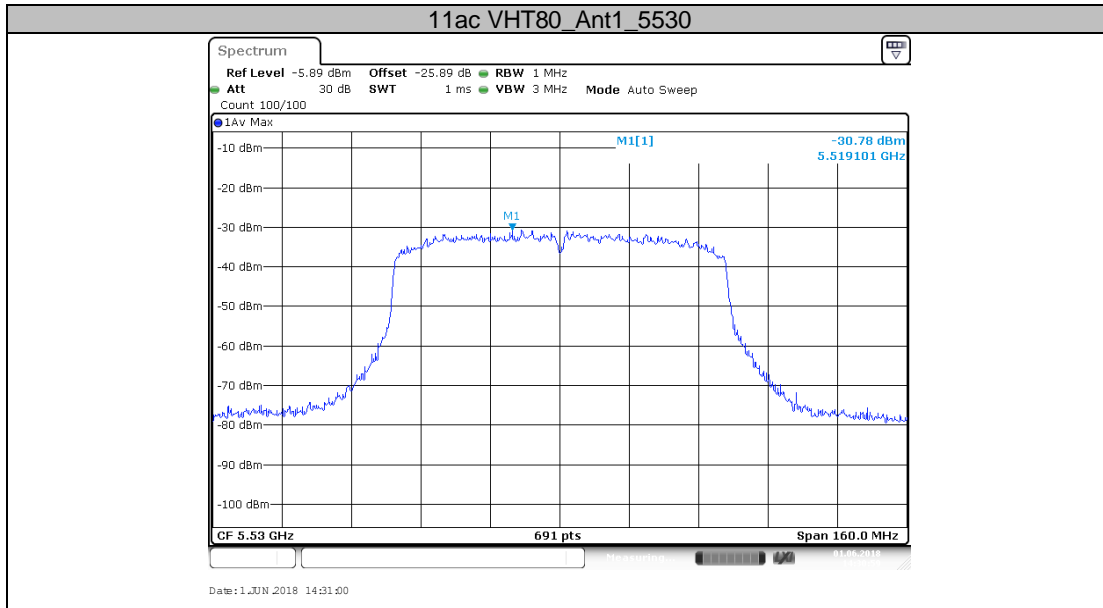


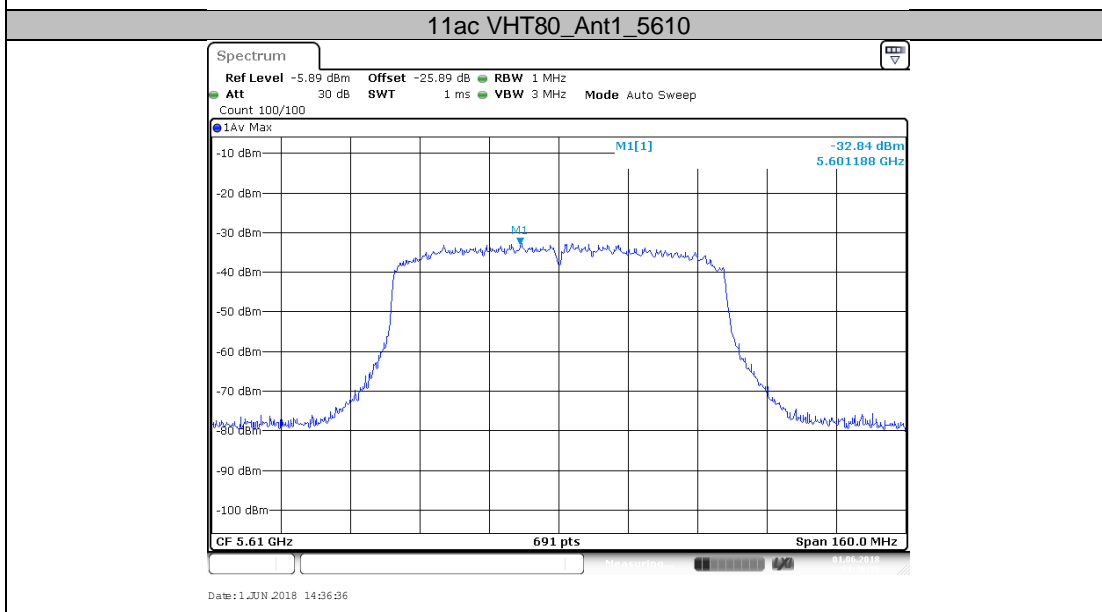
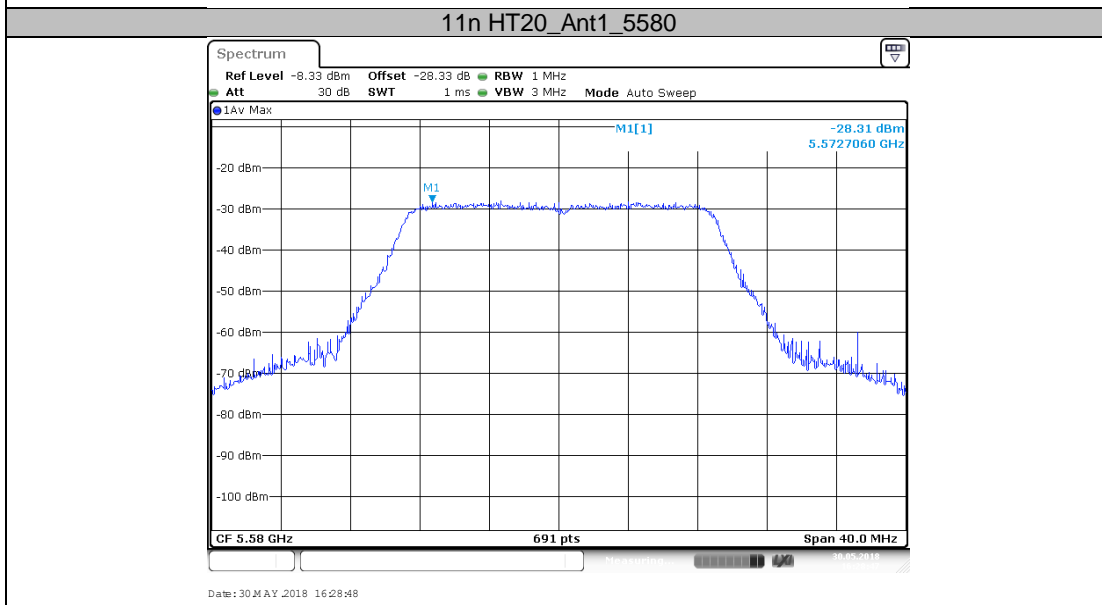
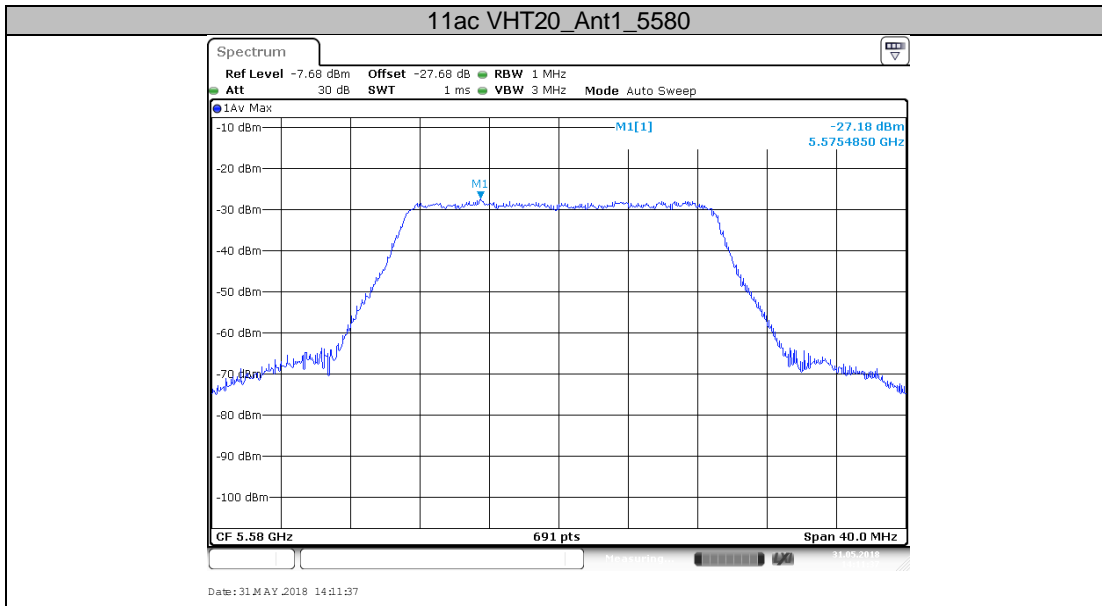


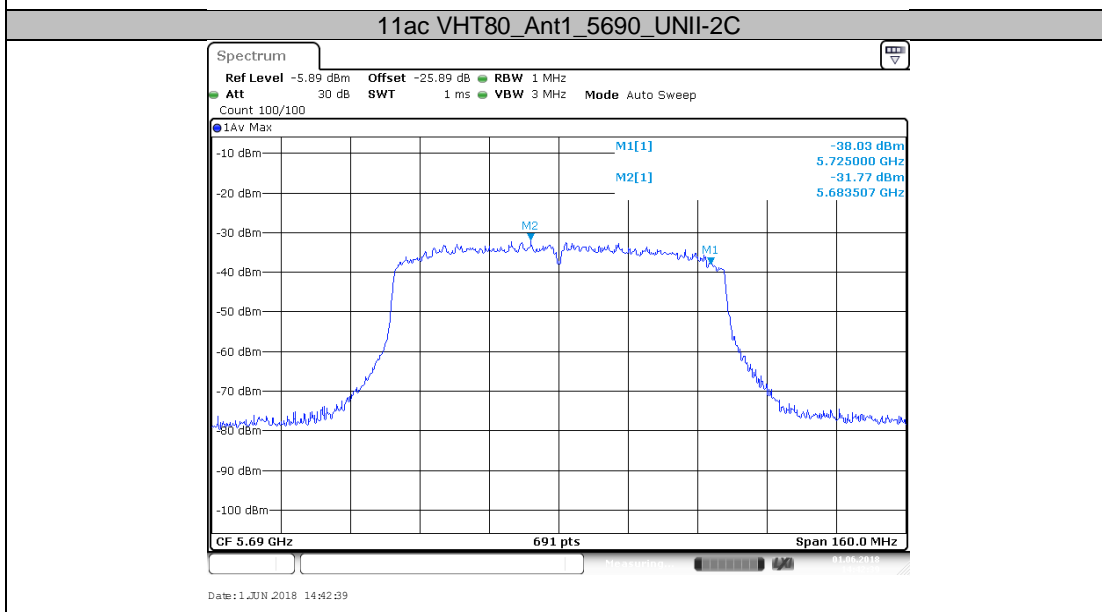
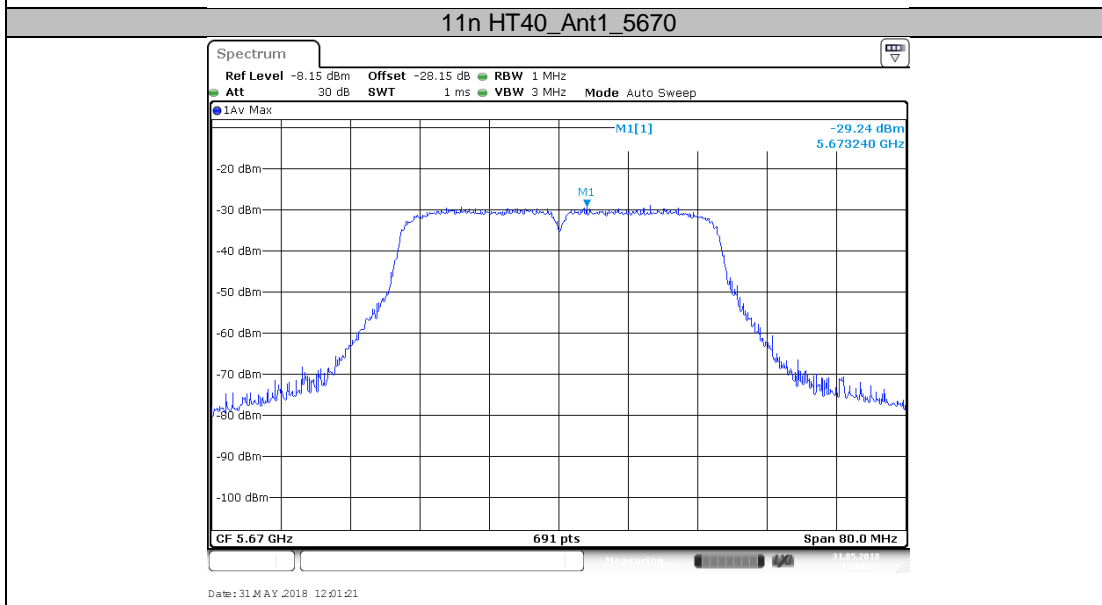
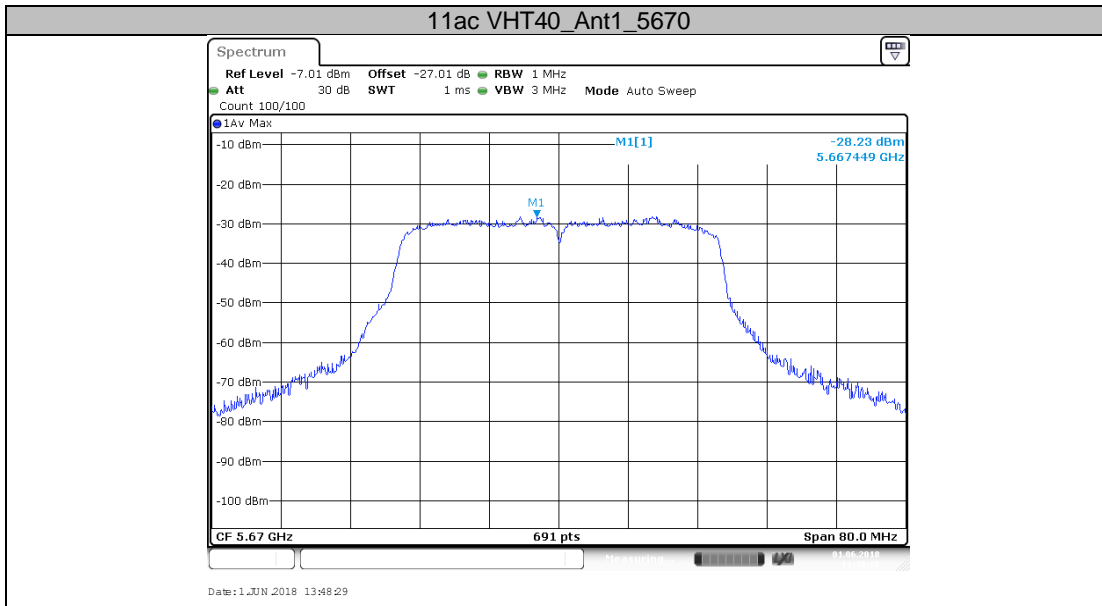


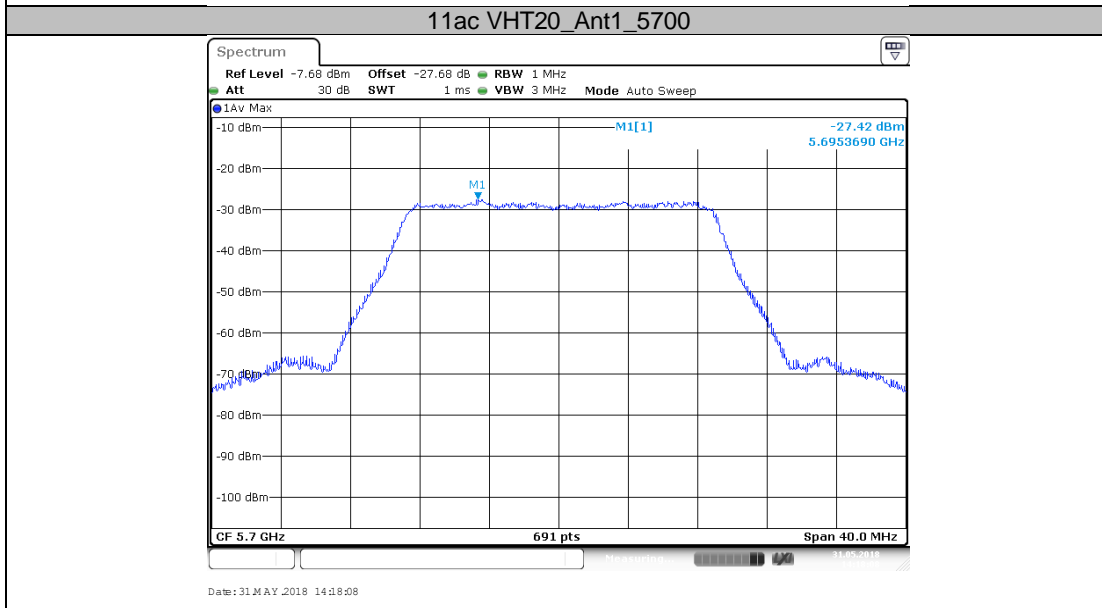
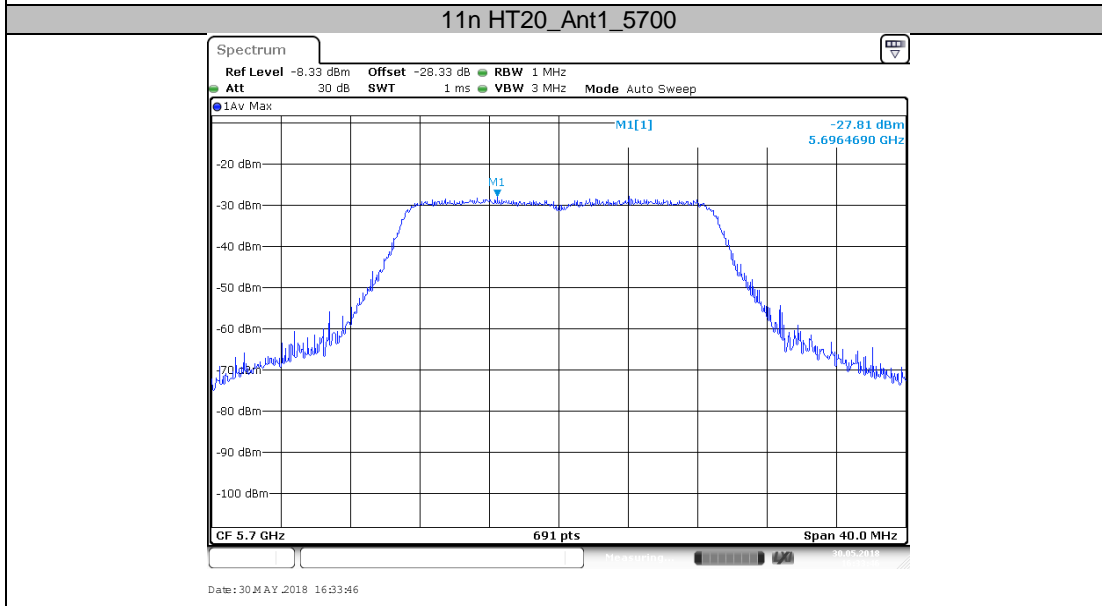
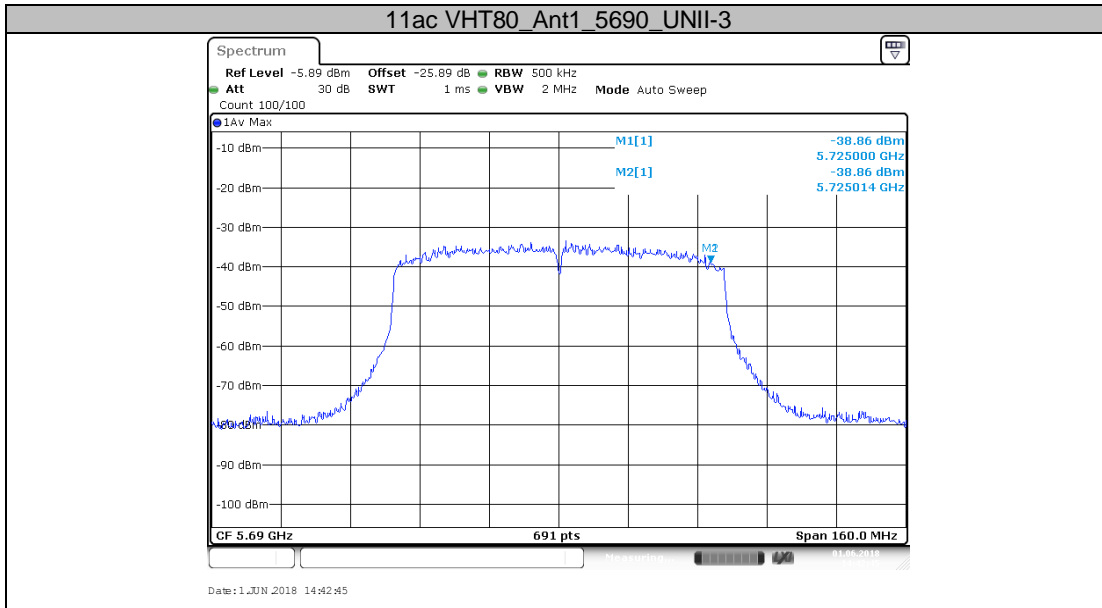


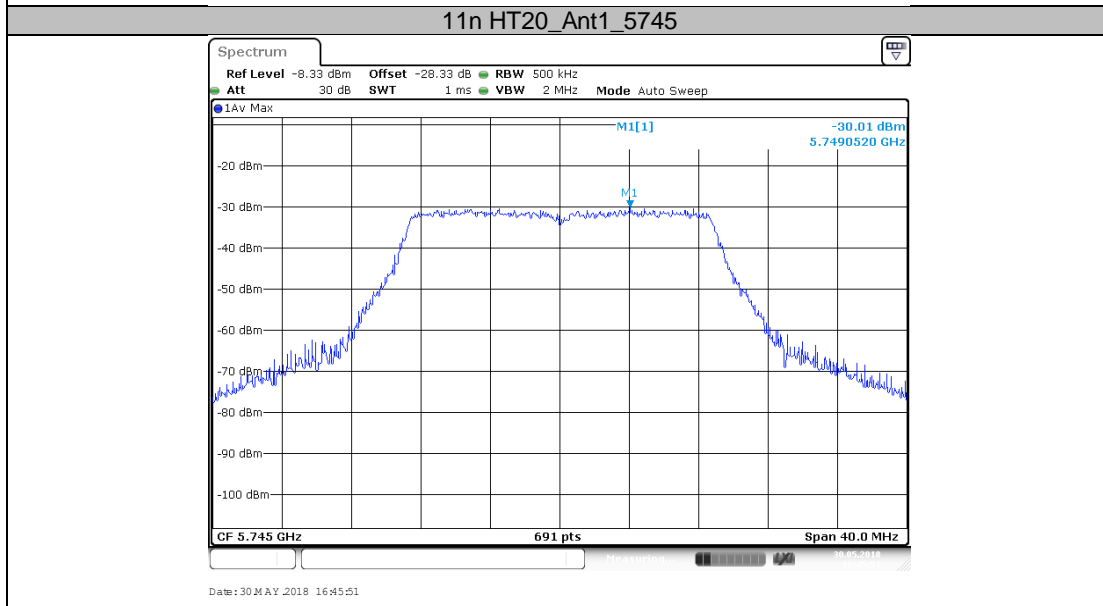
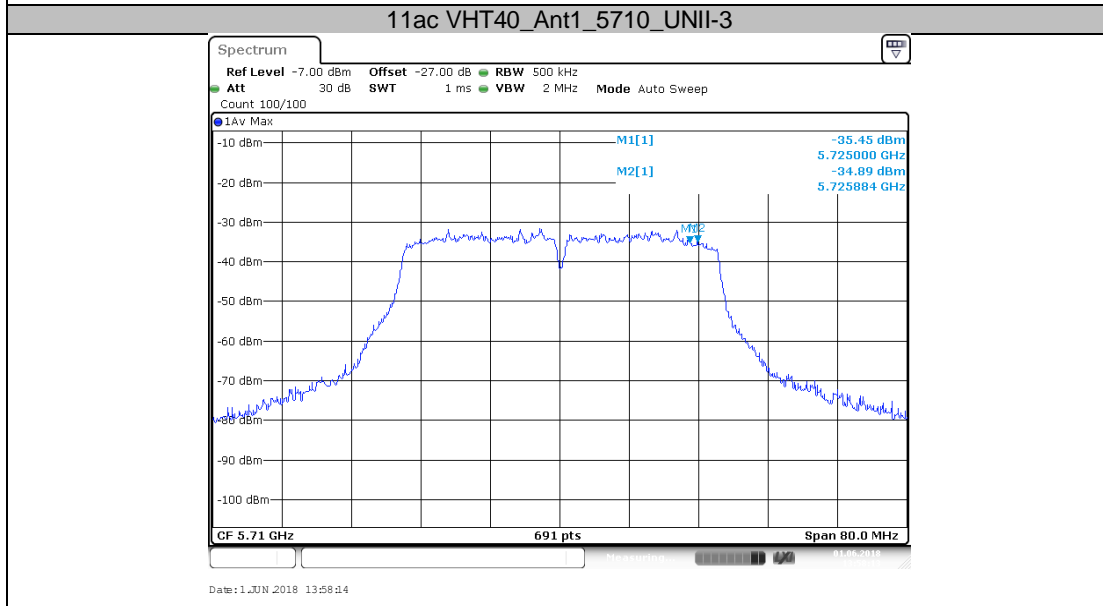
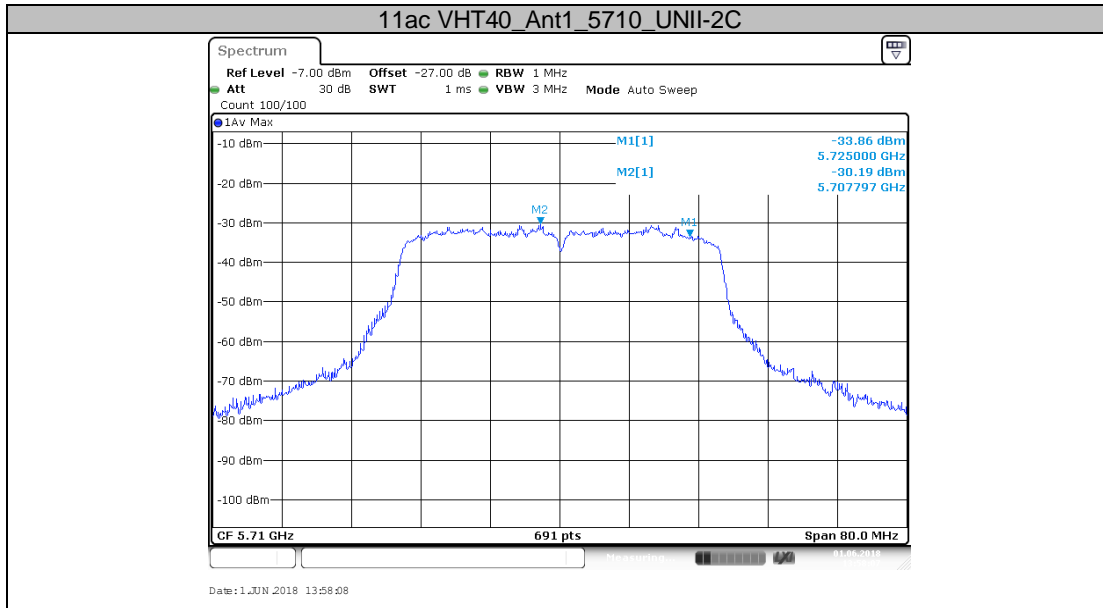


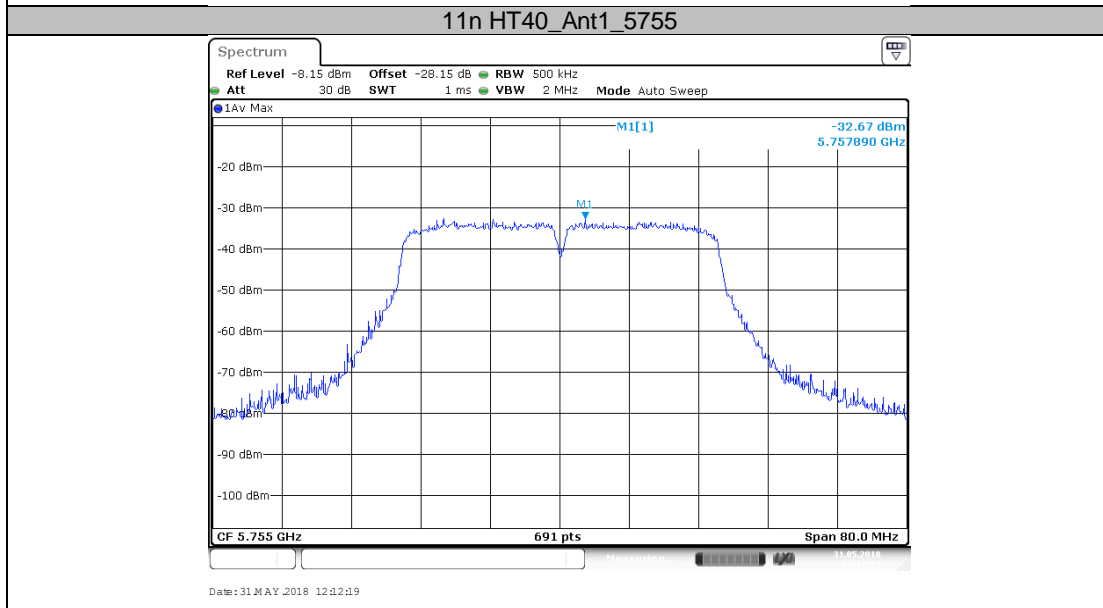
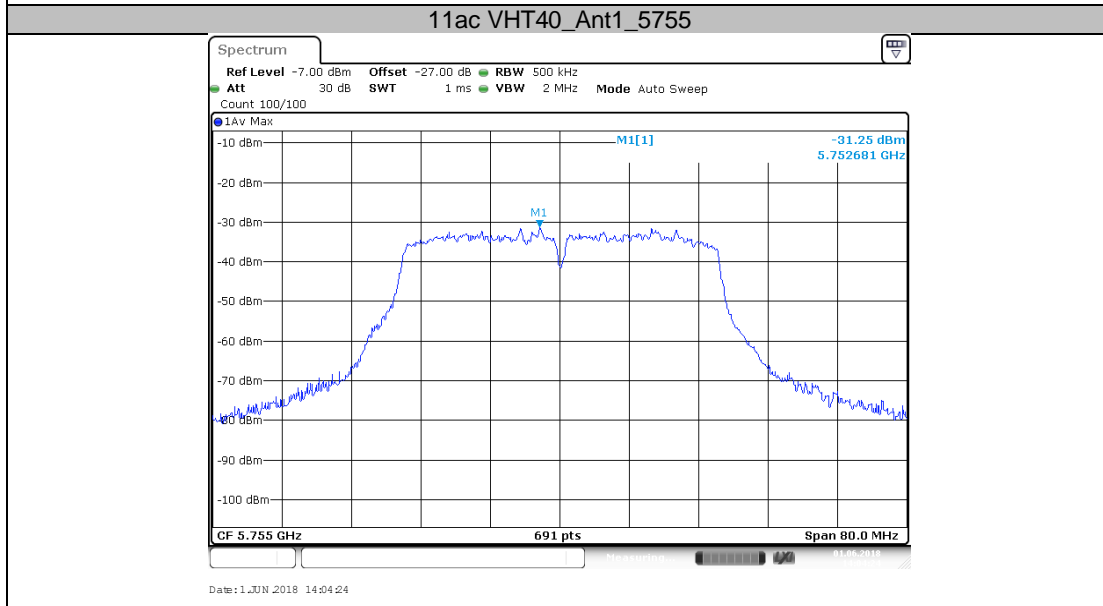
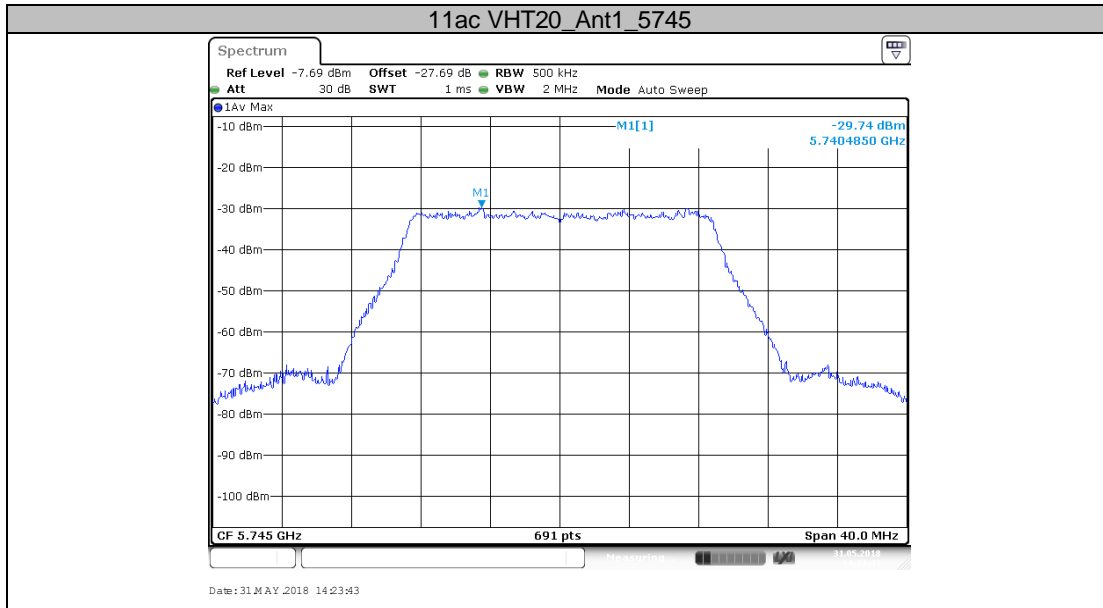


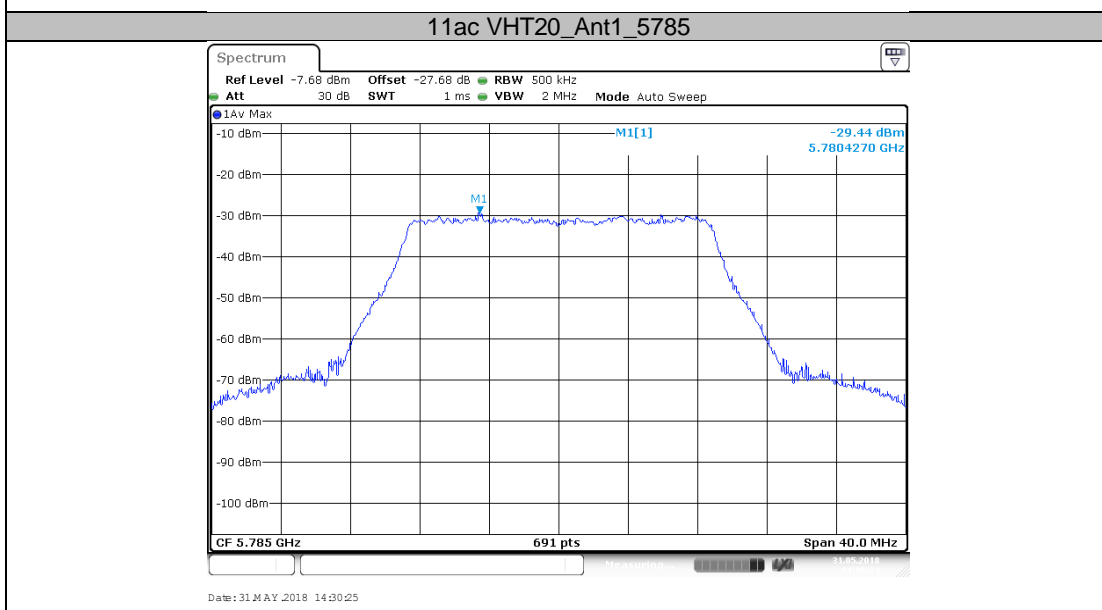
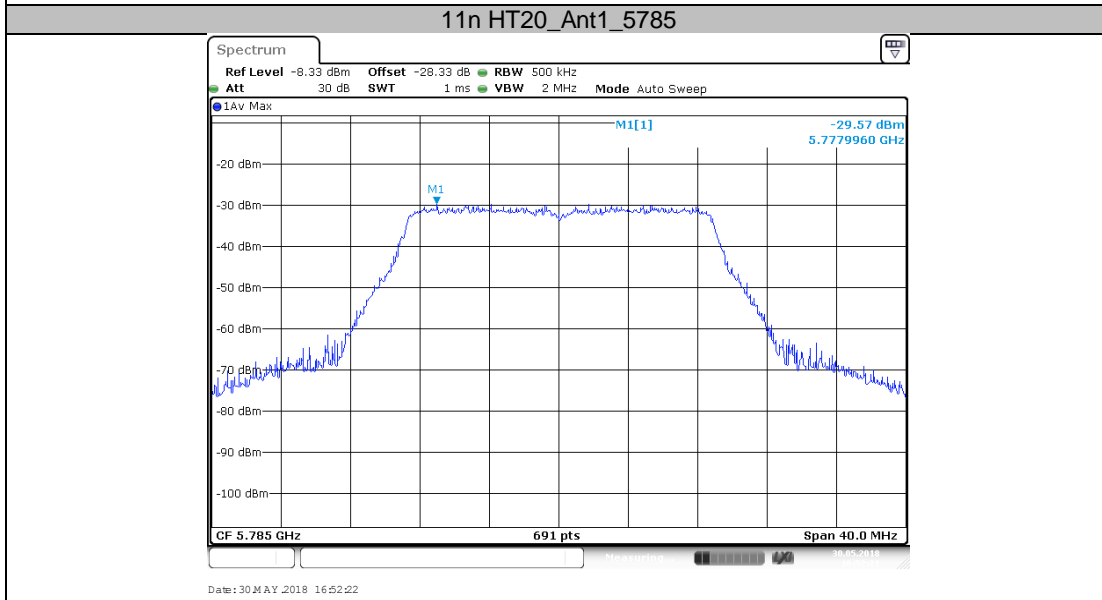
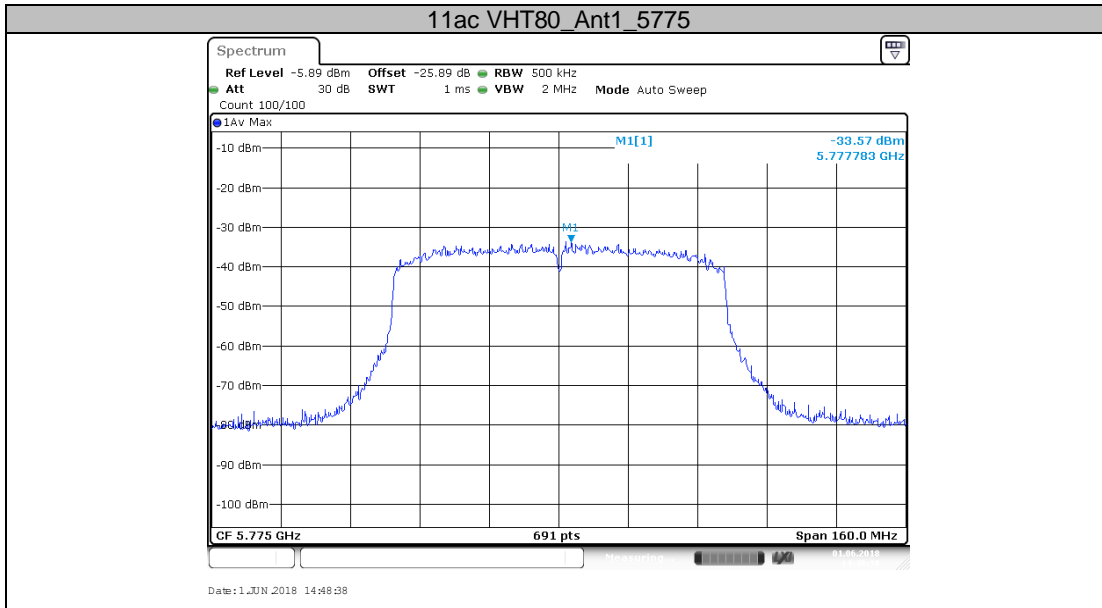


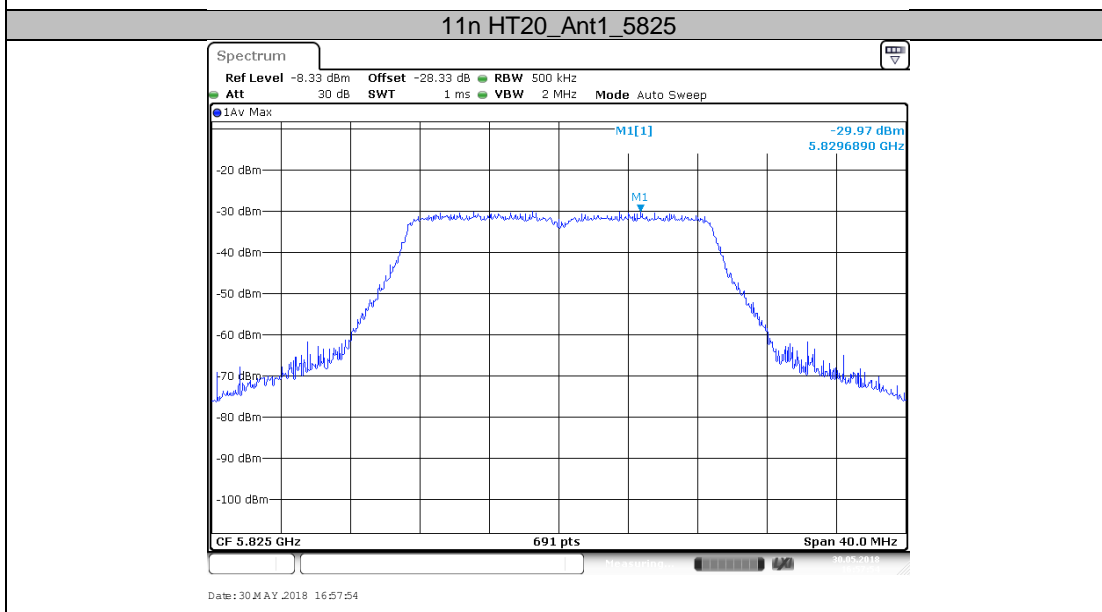
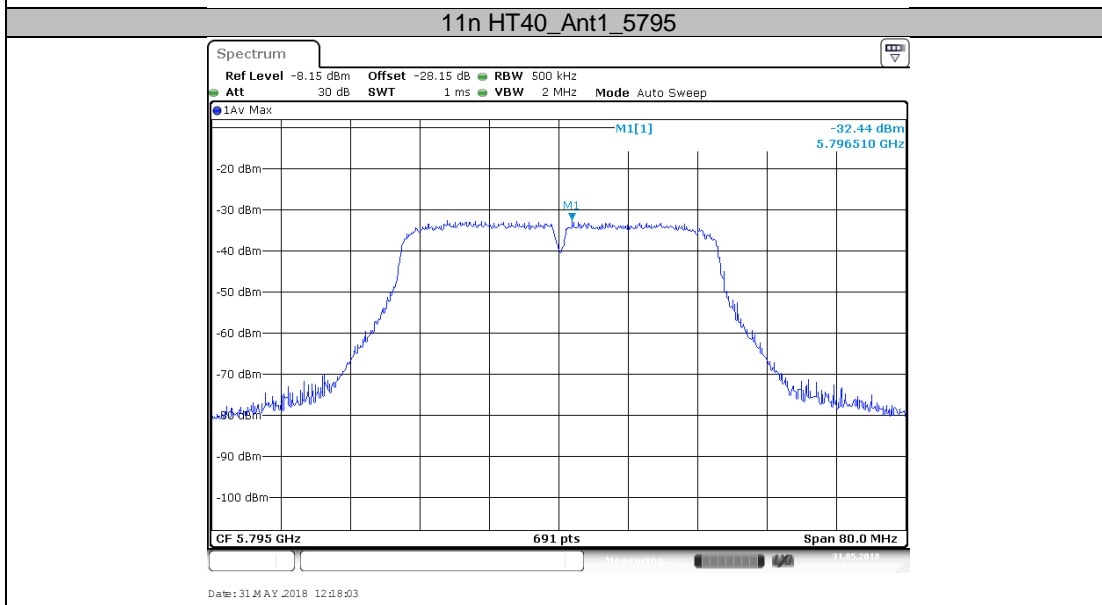
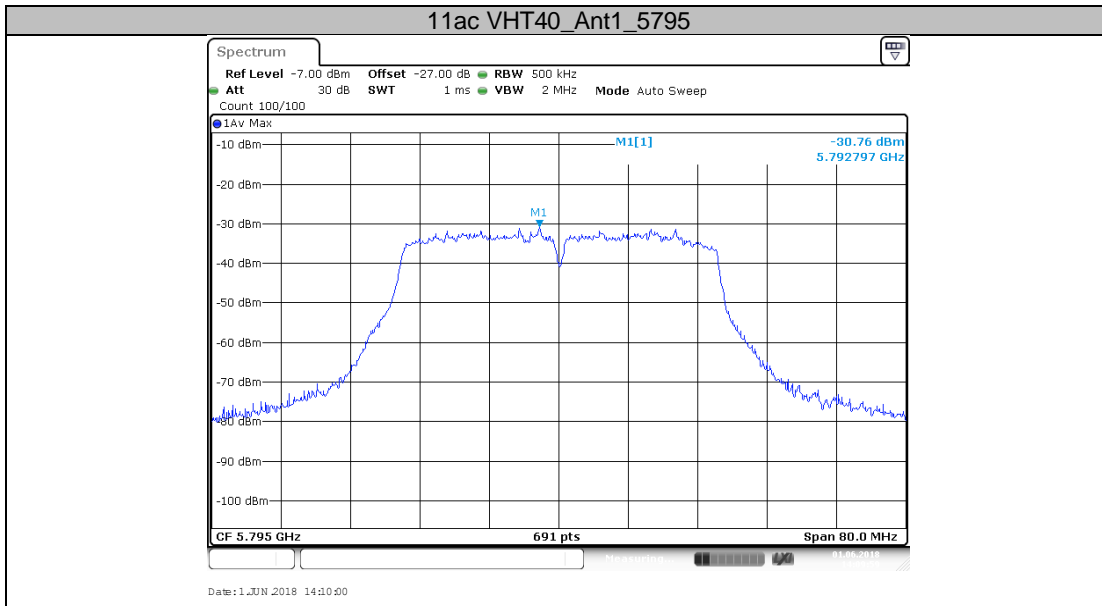


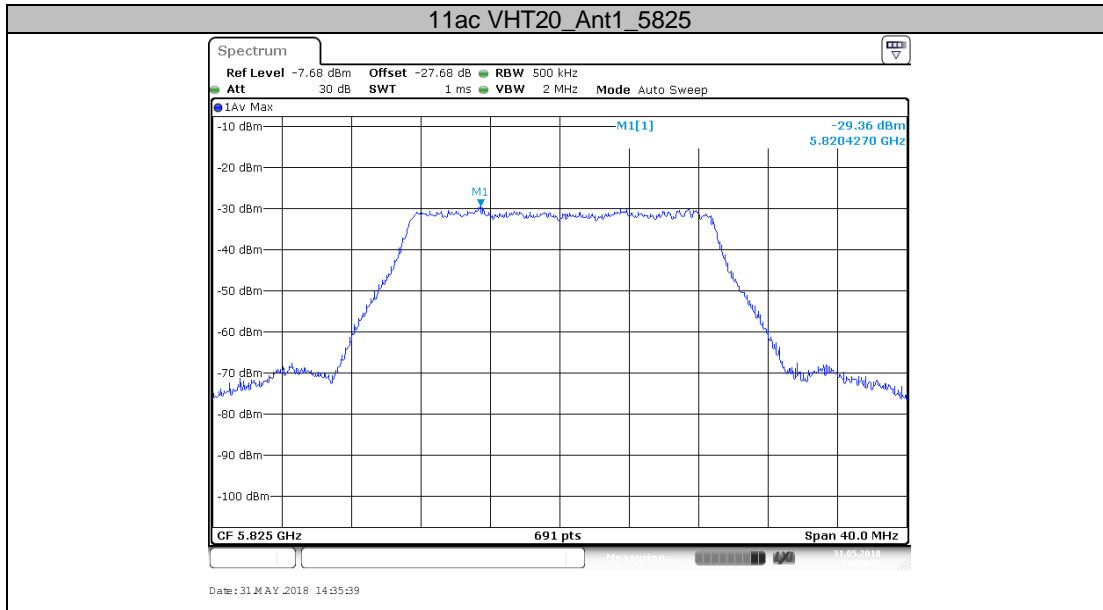












9.5 Unwanted emissions

Test Method

According to KBD789033 D02

Limits:

For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

The provisions of §15.205 apply to intentional radiators operating under this section.

Test result:

Test Mode	Antenna	Channel	Freq Range	Max. Fre	Max. Level	Limit	Verdict
11a	Ant1	5180	30~5140	5127.82	-49.86	-27	PASS
		5180	5360~10000	6868.96	-53.88	-27	PASS
		5200	30~5140	995.50	-51.03	-27	PASS
		5200	5360~10000	9244.09	-53.92	-27	PASS
		5240	30~5140	1035.02	-49.64	-27	PASS
		5240	5360~10000	7011.55	-53.96	-27	PASS
		5260	30~5140	1055.46	-53.18	-27	PASS
		5260	5360~10000	7034.91	-54.27	-27	PASS
		5280	30~5140	1077.60	-53.95	-27	PASS
		5280	5360~10000	7007.84	-54.6	-27	PASS
		5320	30~5140	1114.22	-54.2	-27	PASS
		5320	5360~10000	5373.53	-50.85	-27	PASS
		5500	30~5460	5447.60	-49.52	-27	PASS
		5500	5735~10000	7018.94	-53.75	-27	PASS
		5580	30~5460	5294.12	-54.92	-27	PASS
		5580	5735~10000	7003.72	-54.28	-27	PASS
		5700	30~5460	5440.72	-54.79	-27	PASS
		5700	5735~10000	5752.70	-50.76	-27	PASS
		5745	30~5715	5692.54	-48.28	-27	PASS
		5745	5860~10000	7005.71	-54.32	-27	PASS
5785	30~5715	5412.85	-54.16	-27	PASS		
5785	5860~10000	6918.08	-53.72	-27	PASS		
5825	30~5715	5000.51	-54.94	-27	PASS		
5825	5860~10000	5877.46	-50.82	-27	PASS		
11n HT20	Ant1	5180	30~5140	5128.33	-47.12	-27	PASS
11ac VHT20	Ant1	5180	30~5140	974.21	-46.73	-27	PASS
		5180	5360~10000	7009.70	-53.97	-27	PASS
11n HT20	Ant1	5180	5360~10000	7000.57	-54.47	-27	PASS
11n HT40	Ant1	5190	30~5140	986.13	-47.41	-27	PASS
		5190	5360~10000	7023.15	-53.91	-27	PASS
11ac VHT20	Ant1	5200	30~5140	995.33	-49.9	-27	PASS
11n HT20	Ant1	5200	30~5140	995.33	-49.68	-27	PASS
11ac VHT20	Ant1	5200	5360~10000	6197.26	-53.69	-27	PASS
11n HT20	Ant1	5200	5360~10000	6213.65	-53.93	-27	PASS
11n HT40	Ant1	5230	30~5140	1022.58	-51.55	-27	PASS
		5230	5360~10000	7001.04	-54.07	-27	PASS
11n HT20	Ant1	5240	30~5140	1029.23	-49.1	-27	PASS
11ac VHT20	Ant1	5240	30~5140	1035.36	-50.76	-27	PASS
11n HT20	Ant1	5240	5360~10000	7035.83	-53.93	-27	PASS
11ac VHT20	Ant1	5240	5360~10000	6879.01	-53.74	-27	PASS
11n HT20	Ant1	5260	30~5140	1054.10	-49.76	-27	PASS
11ac VHT20	Ant1	5260	30~5140	1055.80	-48.91	-27	PASS
11n HT20	Ant1	5260	5360~10000	7018.05	-54.59	-27	PASS
11ac VHT20	Ant1	5260	5360~10000	6816.68	-54.36	-27	PASS
	Ant1	5270	30~5140	1065.00	-51.18	-27	PASS



11n HT40		5270	5360~10000	5375.39	-51.8	-27	PASS
11n HT20	Ant1	5280	30~5140	1074.88	-51.4	-27	PASS
11ac VHT20	Ant1	5280	30~5140	1074.02	-51.75	-27	PASS
		5280	5360~10000	7025.01	-53.2	-27	PASS
11n HT20	Ant1	5280	5360~10000	6346.82	-54.18	-27	PASS
11n HT40	Ant1	5310	30~5140	1108.60	-52.99	-27	PASS
		5310	5360~10000	5416.37	-52.57	-27	PASS
11ac VHT20	Ant1	5320	30~5140	1115.24	-53.19	-27	PASS
11n HT20	Ant1	5320	30~5140	1118.31	-54.19	-27	PASS
		5320	5360~10000	5371.99	-49.08	-27	PASS
11ac VHT20	Ant1	5320	5360~10000	5372.30	-47.83	-27	PASS
11n HT20	Ant1	5500	30~5460	5448.33	-47.3	-27	PASS
11ac VHT20	Ant1	5500	30~5460	5448.33	-47.68	-27	PASS
11n HT20	Ant1	5500	5735~10000	7012.40	-53.14	-27	PASS
11ac VHT20	Ant1	5500	5735~10000	7006.14	-53.5	-27	PASS
11n HT40	Ant1	5510	30~5460	5403.62	-50.75	-27	PASS
		5510	5735~10000	6697.93	-54.57	-27	PASS
		5550	30~5460	5446.33	-50.14	-27	PASS
		5550	5735~10000	7007.56	-53.94	-27	PASS
11n HT20	Ant1	5580	30~5460	5196.74	-55.09	-27	PASS
11ac VHT20	Ant1	5580	30~5460	5388.24	-54.89	-27	PASS
11n HT20	Ant1	5580	5735~10000	6490.09	-54.23	-27	PASS
11ac VHT20	Ant1	5580	5735~10000	7010.83	-54.45	-27	PASS
11n HT40	Ant1	5670	30~5460	5329.96	-54.77	-27	PASS
		5670	5735~10000	5772.89	-51.66	-27	PASS
11n HT20	Ant1	5700	30~5460	5249.78	-54.91	-27	PASS
11ac VHT20	Ant1	5700	30~5460	5365.97	-55.3	-27	PASS
11n HT20	Ant1	5700	5735~10000	5752.27	-49.29	-27	PASS
11ac VHT20	Ant1	5700	5735~10000	5752.13	-49.54	-27	PASS
11n HT20	Ant1	5745	30~5715	5693.49	-48.9	-27	PASS
11ac VHT20	Ant1	5745	30~5715	5693.30	-48.65	-27	PASS
11n HT20	Ant1	5745	5860~10000	6304.28	-54.49	-27	PASS
11ac VHT20	Ant1	5745	5860~10000	7007.09	-54.6	-27	PASS
11n HT40	Ant1	5755	30~5715	5708.27	-50.6	-27	PASS
		5755	5860~10000	6543.97	-53.97	-27	PASS
11ac VHT20	Ant1	5785	30~5715	4645.97	-55.23	-27	PASS
11n HT20	Ant1	5785	30~5715	5415.32	-53.87	-27	PASS
		5785	5860~10000	9712.21	-54.16	-27	PASS
11ac VHT20	Ant1	5785	5860~10000	7006.26	-54.09	-27	PASS
11n HT40	Ant1	5795	30~5715	5692.36	-51.6	-27	PASS
		5795	5860~10000	5897.60	-53.64	-27	PASS

11ac VHT20	Ant1	5825	30~5715	5447.15	-55.28	-27	PASS
11n HT20	Ant1	5825	30~5715	5424.22	-54.75	-27	PASS
11ac VHT20	Ant1	5825	5860~10000	5876.77	-50.2	-27	PASS
11n HT20	Ant1	5825	5860~10000	5877.18	-49.73	-27	PASS

Test Graphs

