APPENDIX REPORT

Project No.	SHT2011032203EW	Radio Specification	WIFI 5G
Test sample No.	YPHT20110322004	Model No.	AR3XAT00
Start test date	2021-02-02	Finish date	2021-02-02
Temperature	23.5°C	Humidity	50%
Test Engineer	Hailey Chen	Auditor	Xiaodong Zhao

Appendix clause	Test item	Result
A	Maximum Conducted Output Power	PASS
B	Maximum Power Spectral Density	PASS
C	26 dB Bandwidth	PASS
D	99% Occupy bandwidth	PASS
E	6 dB Bandwidth	PASS
F	Band Edge	PASS
G	Frequency stability	PASS

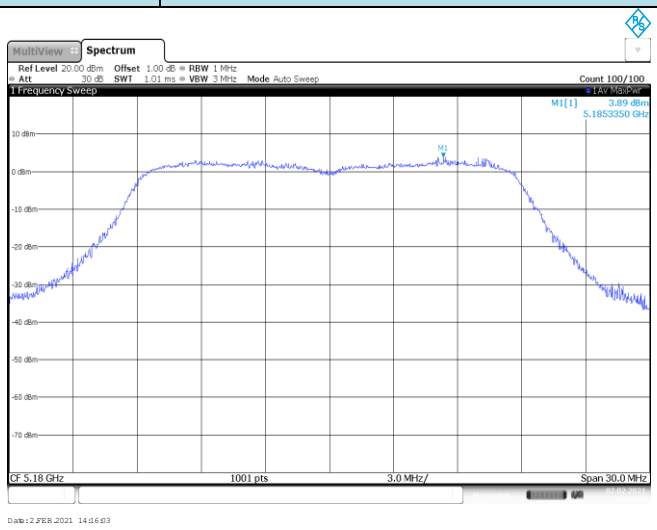
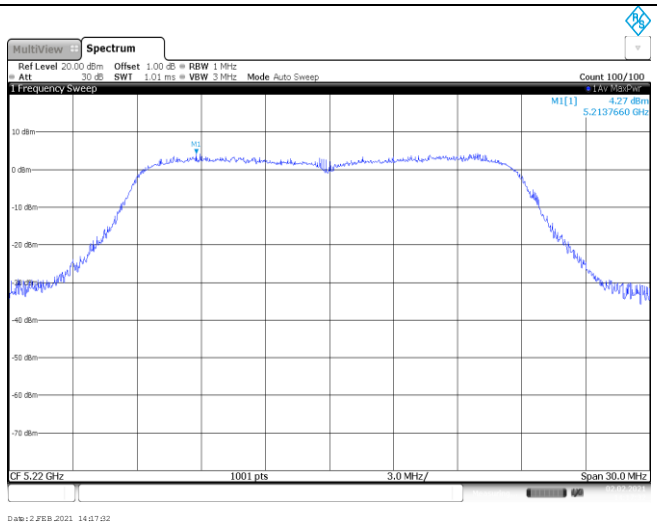
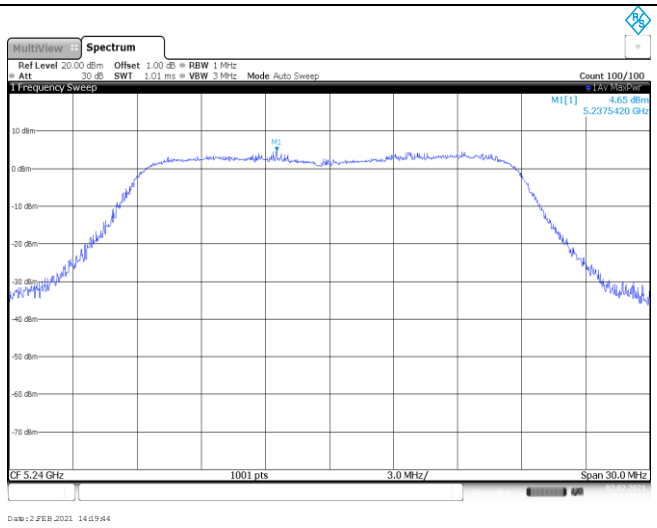
Appendix A: Maximum Conducted Output Power

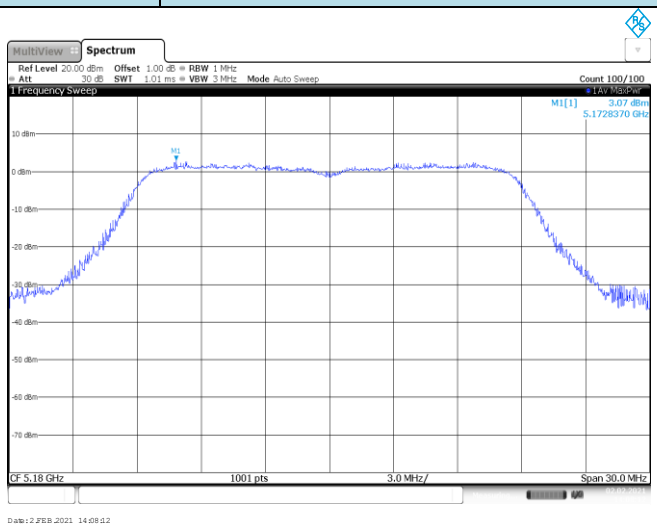
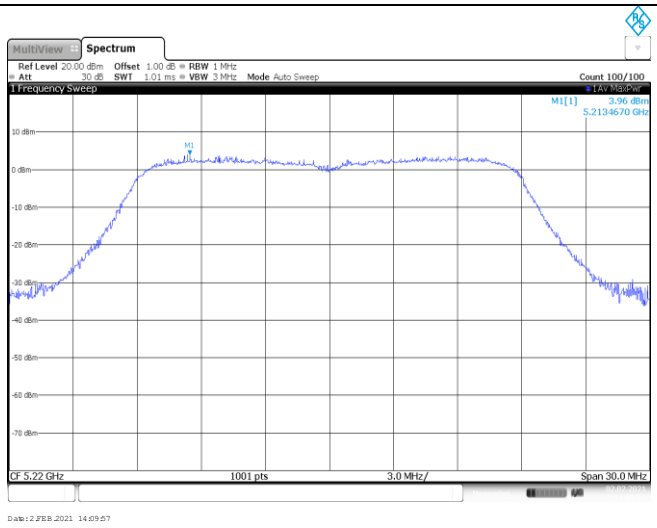
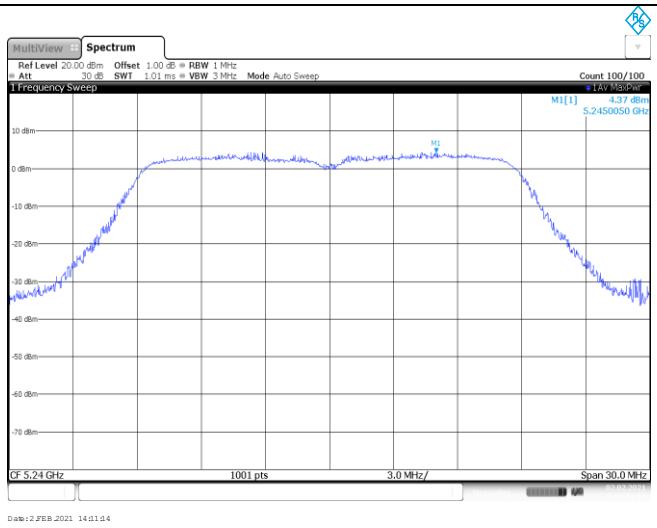
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Conducted Output Power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH_L	13.30	98.02	0.09	13.39	24.00	Pass
			CH_M	14.66	93.26	0.30	14.96		
			CH_H	15.46	93.26	0.30	15.76		
		802.11n	CH_L	13.03	97.08	0.13	13.16	24.00	Pass
			CH_M	14.32	97.08	0.13	14.45		
			CH_H	15.29	92.83	0.32	15.61		
		802.11a	CH_L	13.20	94.10	0.26	13.46	24.00	Pass
			CH_M	14.44	96.82	0.14	14.58		
			CH_H	15.45	95.25	0.21	15.66		
	40	802.11ac	CH_L	13.01	93.49	0.29	13.30	24.00	Pass
			CH_H	14.70	90.37	0.44	15.14		
		802.11n	CH_L	13.00	89.42	0.49	13.49	24.00	Pass
			CH_H	14.50	95.10	0.22	14.72		
	80	802.11ac	CH_M	13.95	79.33	1.01	14.96	24.00	Pass
IV	20	802.11ac	CH_L	14.21	94.59	0.24	14.45	30.00	Pass
			CH_M	13.93	93.33	0.30	14.23		
			CH_H	13.40	93.73	0.28	13.68		
		802.11n	CH_L	14.23	93.69	0.28	14.51	30.00	Pass
			CH_M	14.07	92.89	0.32	14.39		
			CH_H	13.64	93.23	0.30	13.94		
		802.11a	CH_L	13.92	94.86	0.23	14.15	30.00	Pass
			CH_M	13.87	92.93	0.32	14.19		
			CH_H	13.54	94.10	0.26	13.80		
	40	802.11ac	CH_L	13.75	89.68	0.47	14.22	30.00	Pass
			CH_H	13.58	91.19	0.40	13.98		
		802.11n	CH_L	13.71	85.16	0.70	14.41	30.00	Pass
			CH_H	14.43	91.90	0.37	14.80		
	80	802.11ac	CH_M	13.49	87.65	0.57	14.06	30.00	Pass

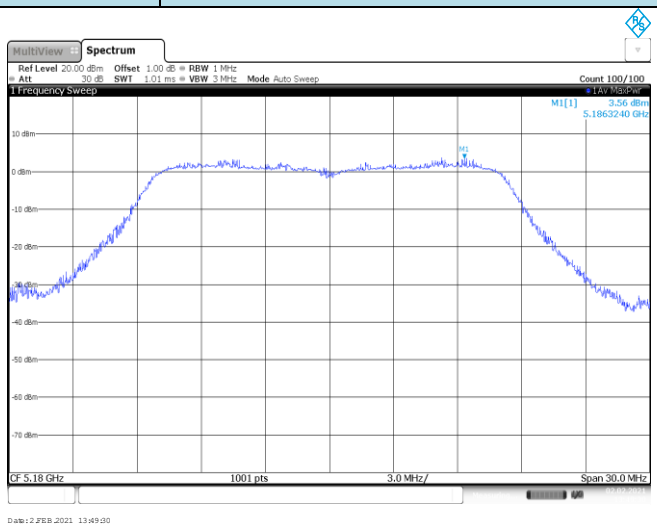
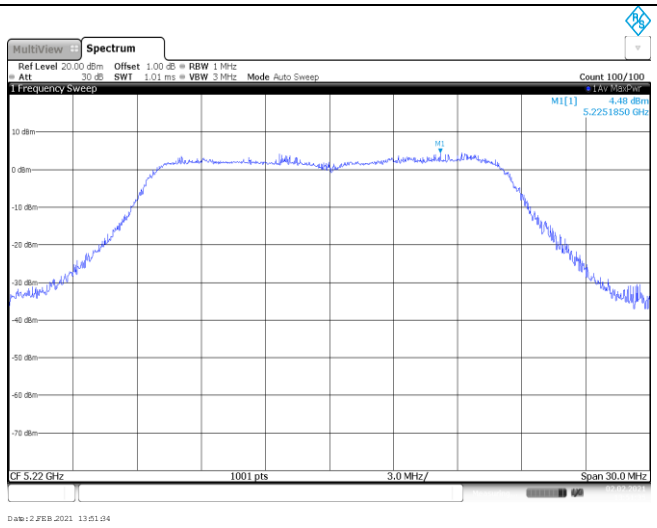
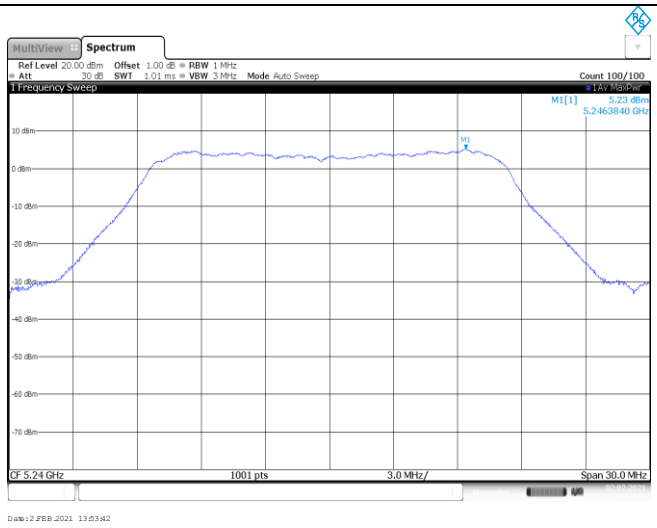
NOTE: duty cycle factor =10LOG(1/ duty cycle)

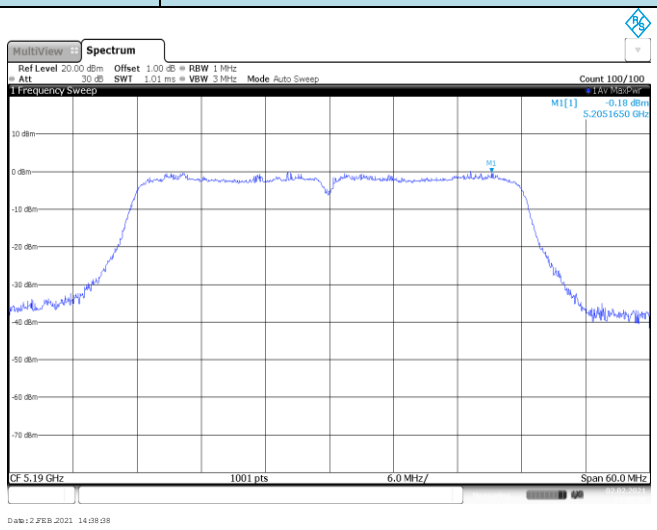
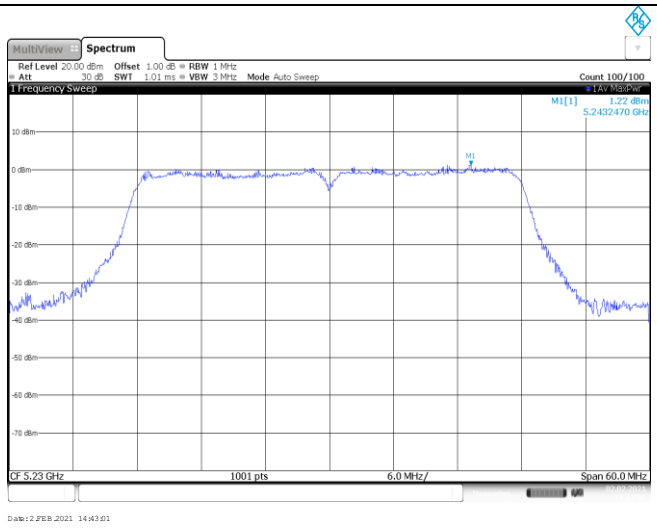
Appendix B：Maximum Power Spectral Density

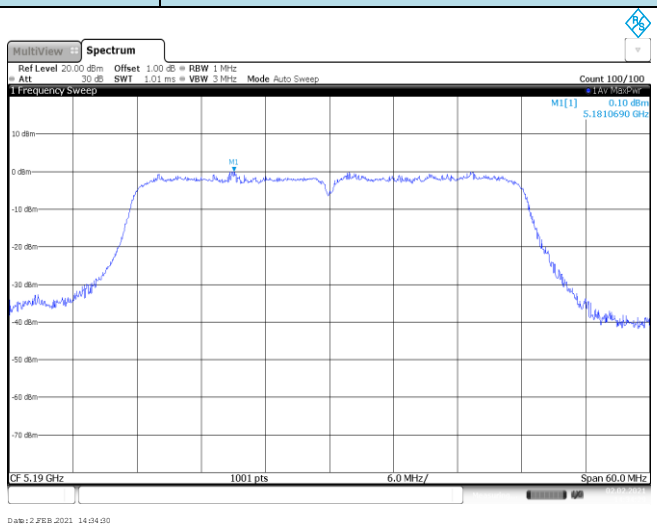
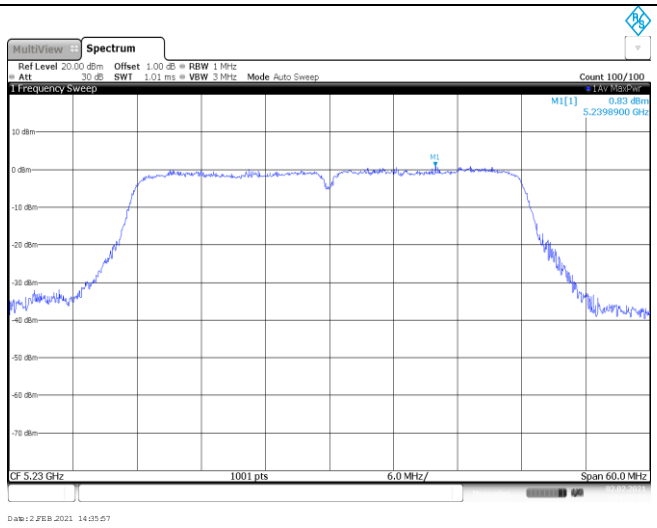
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor（dB）	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11ac	CH_L	3.89	98.02	0.09	3.98	11.00	Pass
			CH_M	4.27	93.26	0.30	4.57		
			CH_H	4.65	93.26	0.30	4.95		
		802.11n	CH_L	3.07	97.08	0.13	3.20	11.00	Pass
			CH_M	3.96	97.08	0.13	4.09		
			CH_H	4.37	92.83	0.32	4.69		
		802.11a	CH_L	3.56	94.10	0.26	3.82	11.00	Pass
			CH_M	4.48	96.82	0.14	4.62		
			CH_H	5.23	95.25	0.21	5.44		
	40	802.11ac	CH_L	-0.18	93.49	0.29	0.11	11.00	Pass
			CH_H	1.22	90.37	0.44	1.66		
		802.11n	CH_L	0.10	89.42	0.49	0.59	11.00	Pass
			CH_H	0.83	95.10	0.22	1.05		
	80	802.11ac	CH_M	-1.41	79.33	1.01	-0.40	11.00	Pass
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor（dB）	Power Spectral Density (dBm/500KHz)	Limit (dBm/500KHz)	Result
IV	20	802.11ac	CH_L	1.54	94.59	0.24	1.78	30.00	Pass
			CH_M	1.93	93.33	0.30	2.23		
			CH_H	1.11	93.73	0.28	1.39		
		802.11n	CH_L	2.50	93.69	0.28	2.78	30.00	Pass
			CH_M	1.90	92.89	0.32	2.22		
			CH_H	1.25	93.23	0.30	1.55		
		802.11a	CH_L	1.64	94.86	0.23	1.87	30.00	Pass
			CH_M	2.65	92.93	0.32	2.97		
			CH_H	1.35	94.10	0.26	1.61		
	40	802.11ac	CH_L	-1.50	89.68	0.47	-1.03	30.00	Pass
			CH_H	-1.93	91.19	0.40	-1.53		
		802.11n	CH_L	-1.65	85.16	0.70	-0.95	30.00	Pass
			CH_H	-1.06	91.90	0.37	-0.69		
	80	802.11ac	CH_M	-3.66	87.65	0.57	-3.09	30.00	Pass

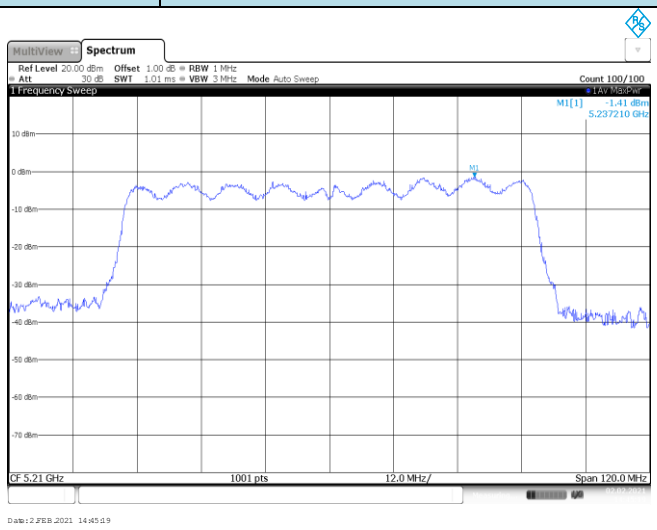
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

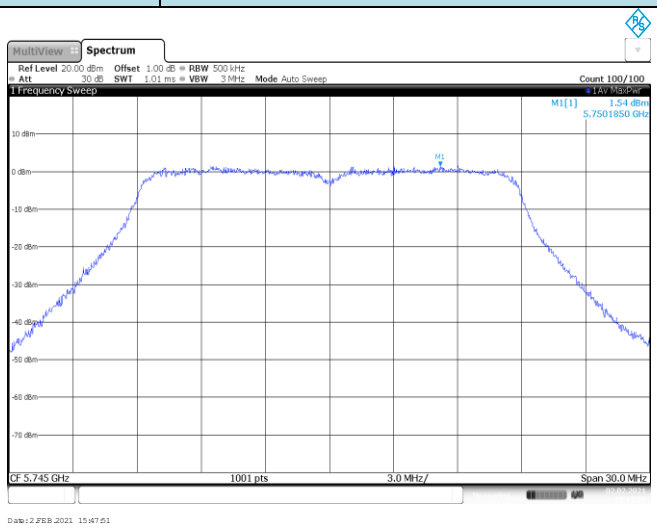
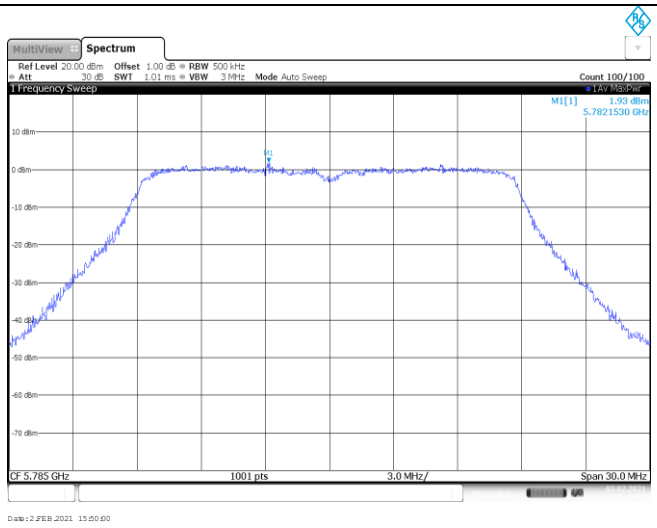
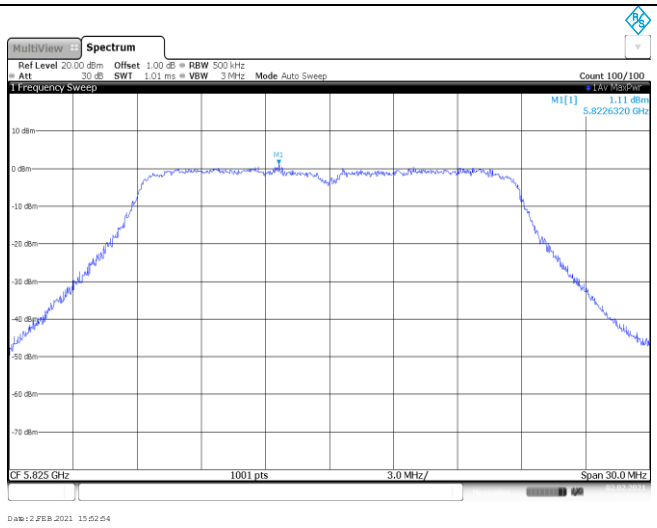
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

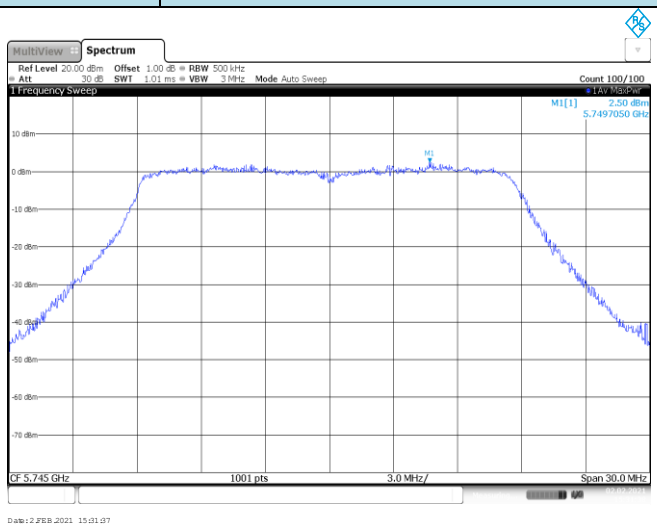
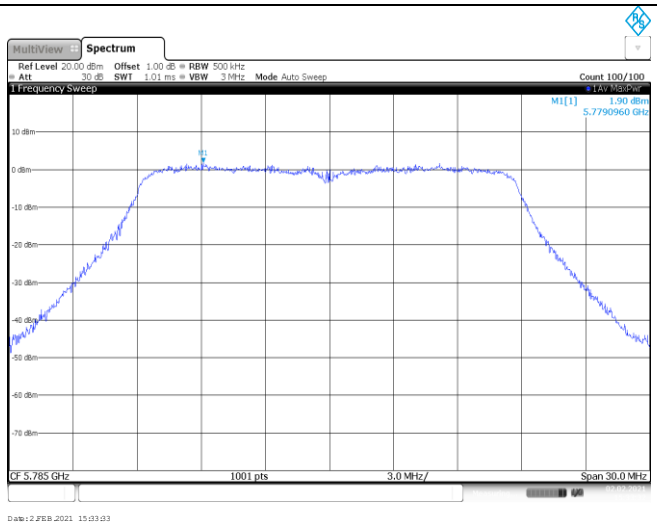
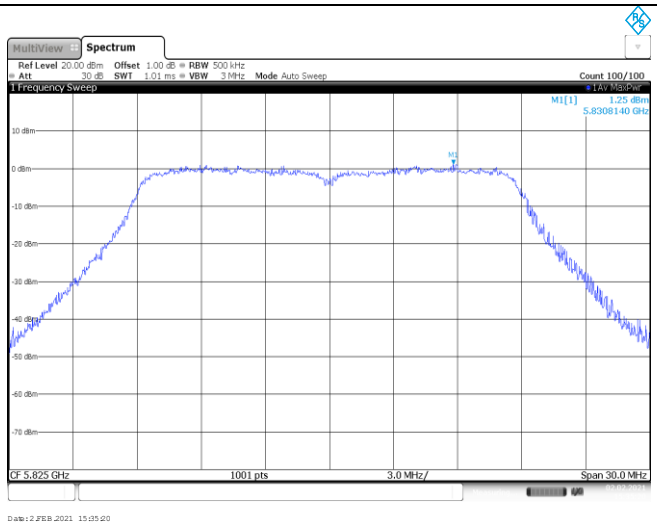
Band I	802.11a
CH_L	
CH_M	
CH_H	

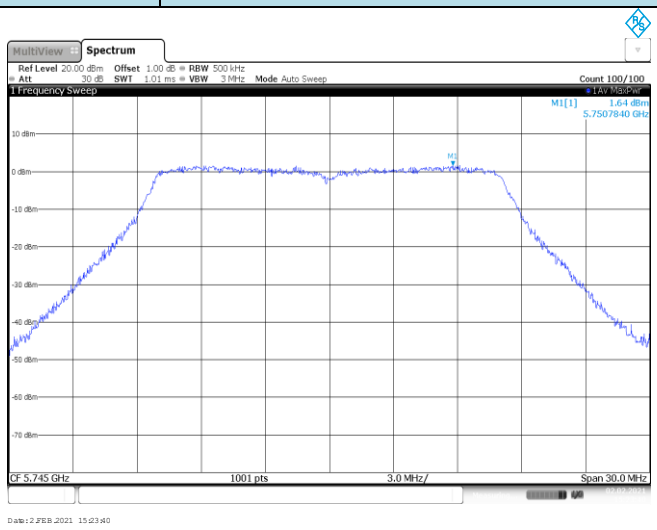
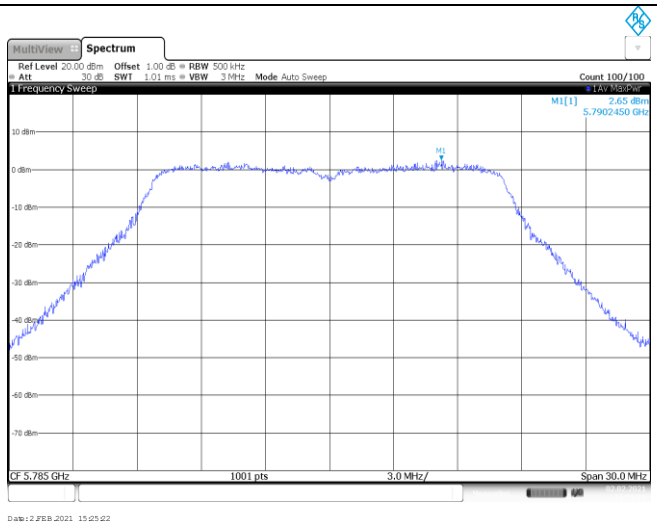
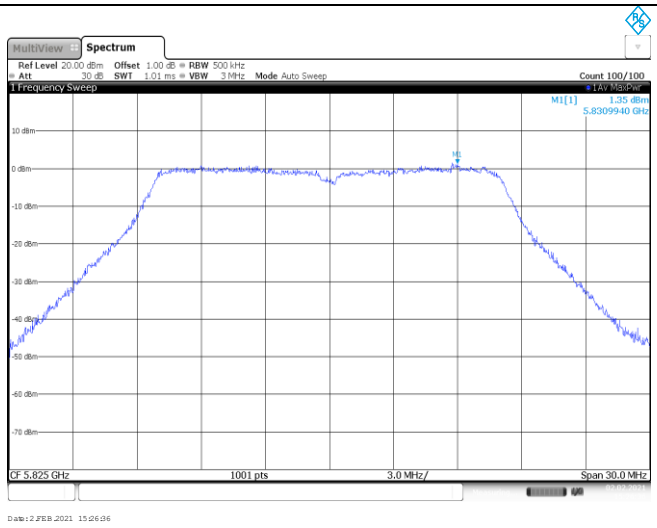
Band I	802.11ac (HT40)
CH_L	
CH_H	

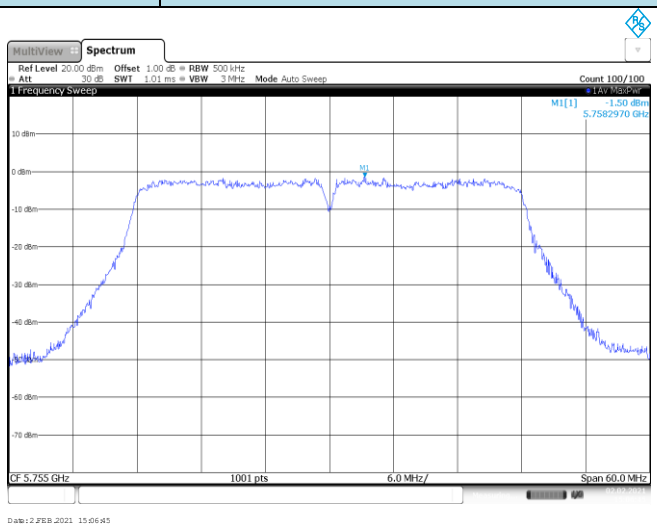
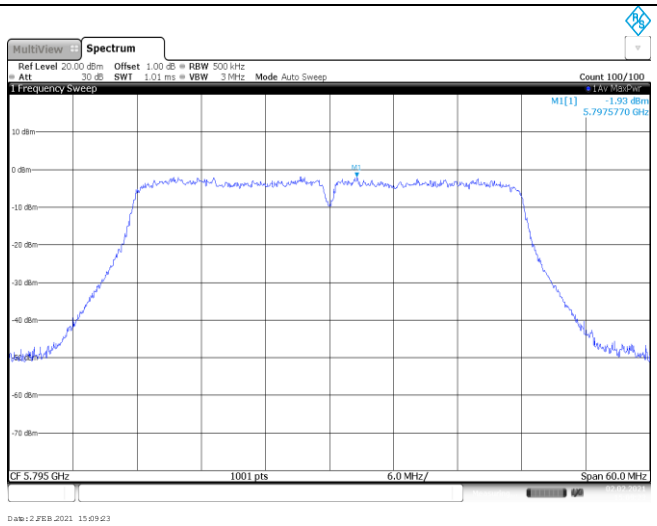
Band I	802.11n (HT40)
CH_L	
CH_H	

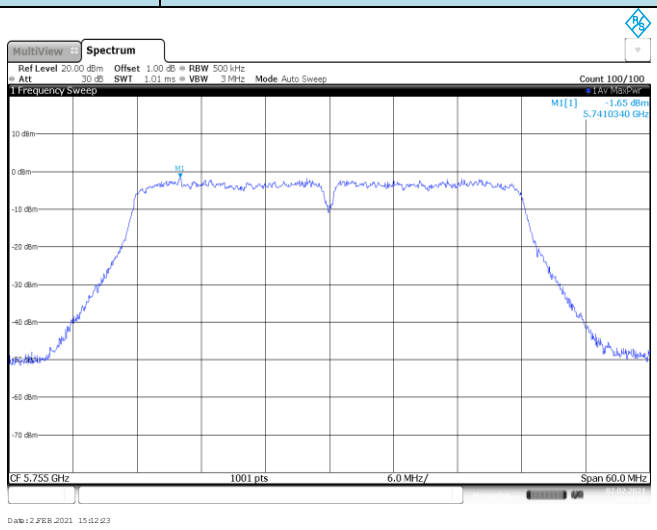
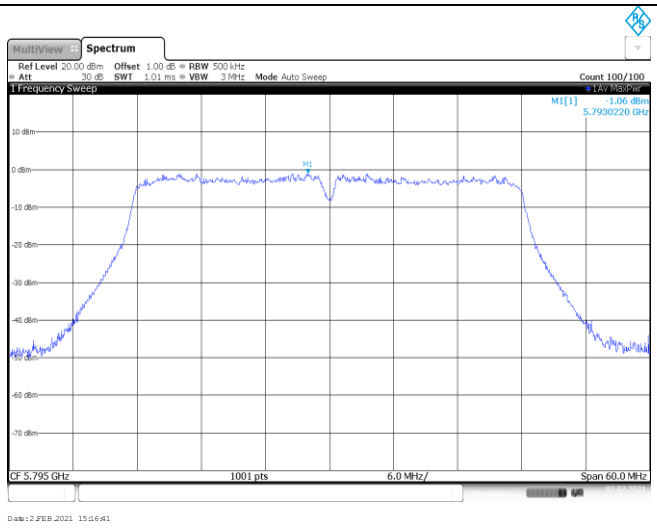
Band I	802.11ac (HT80)
CH_M	

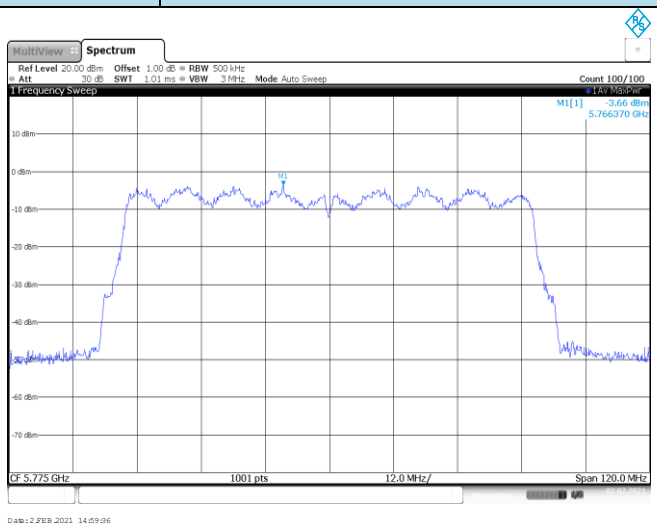
Band IV	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11a
CH_L	
CH_M	
CH_H	

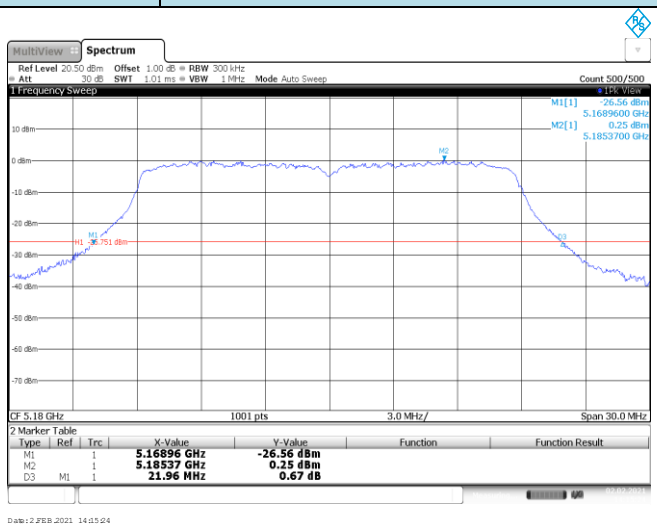
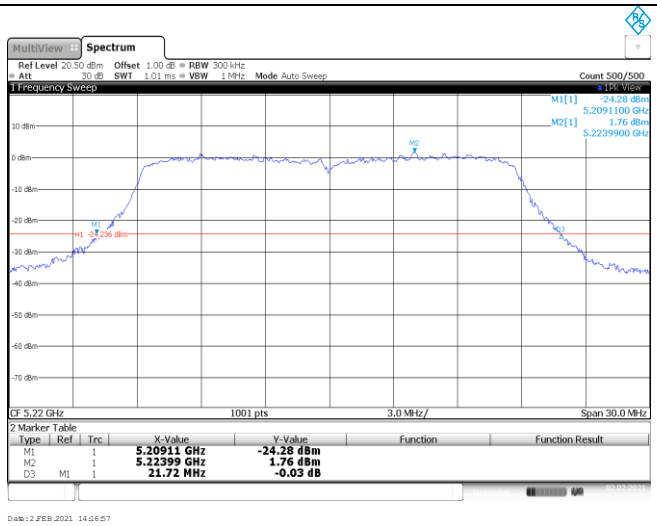
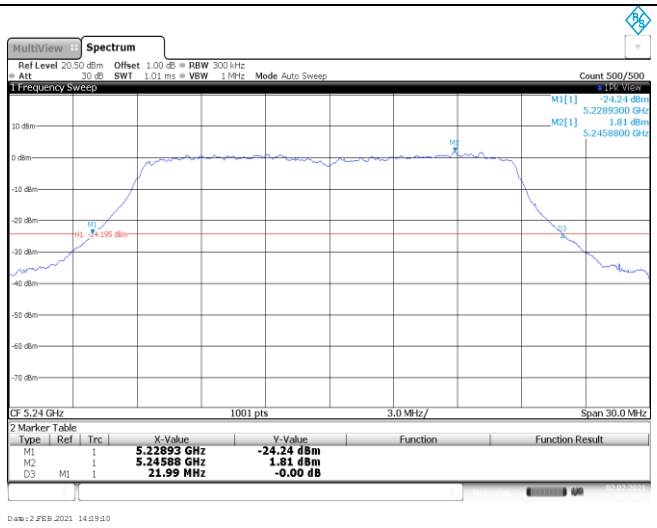
Band IV	802.11ac (HT40)
CH_L	
CH_H	

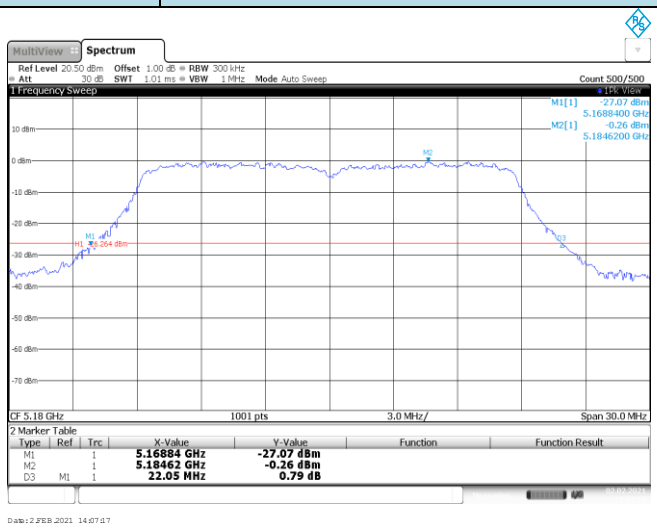
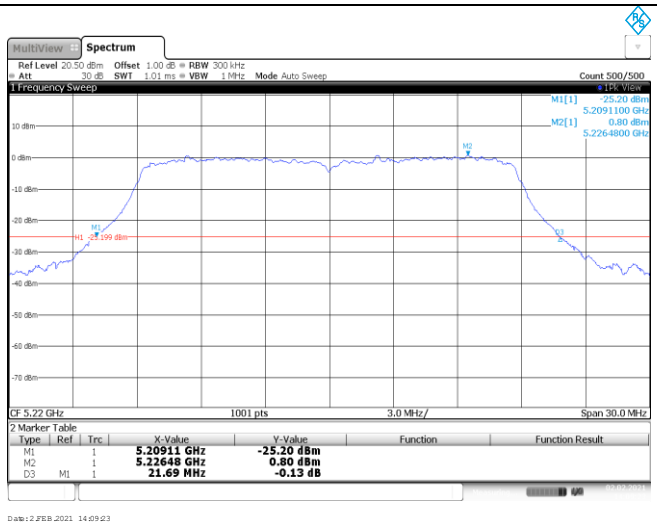
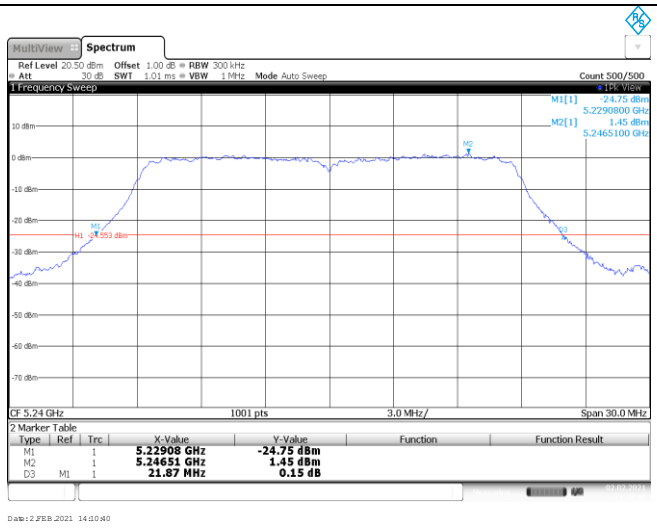
Band IV	802.11n (HT40)
CH_L	
CH_H	

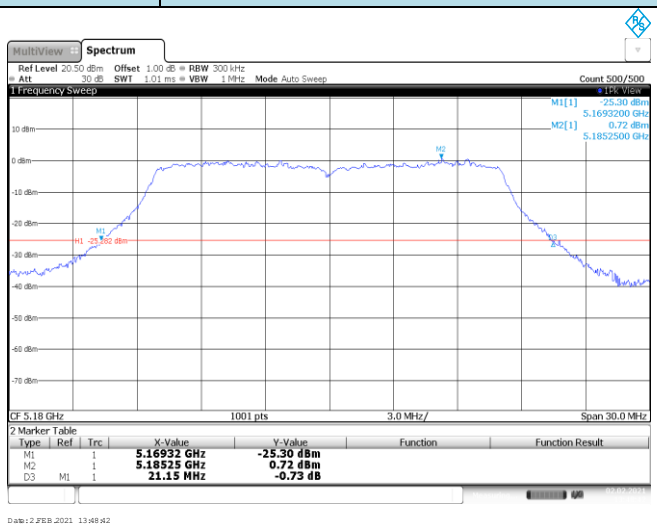
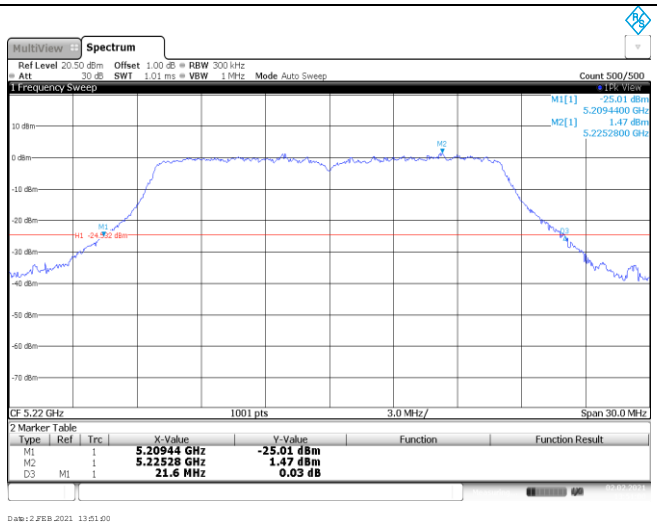
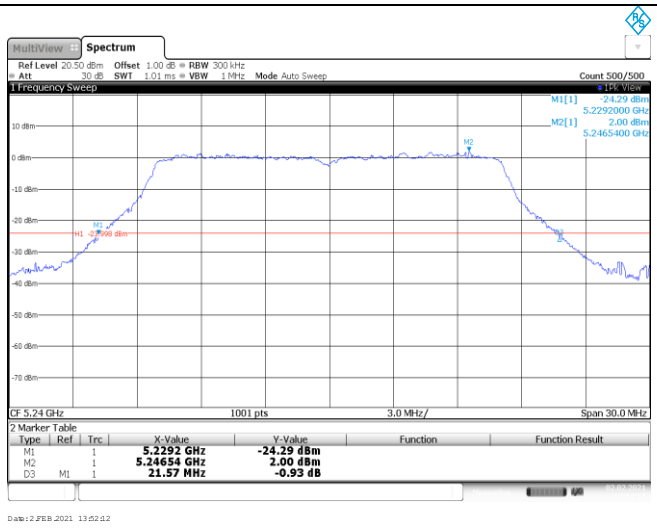
Band IV	802.11ac (HT80)
CH_M	

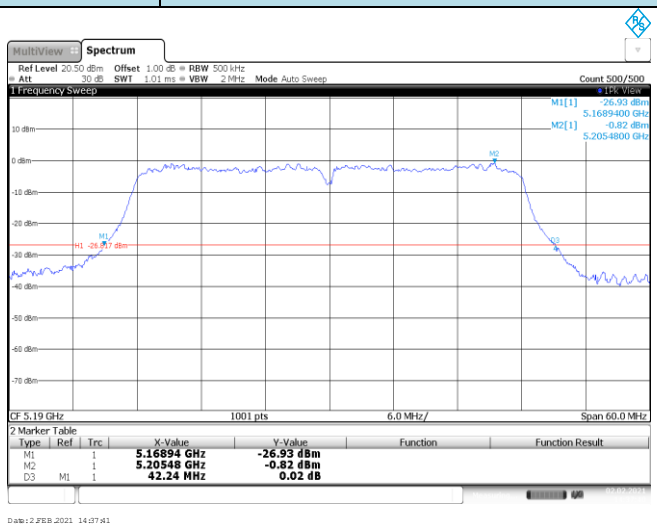
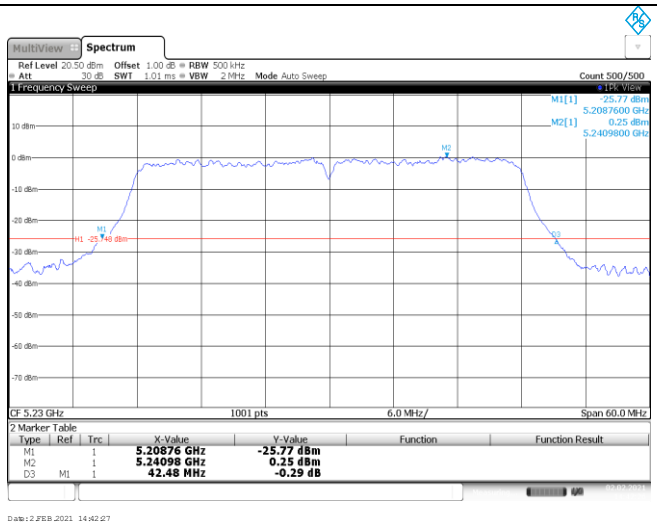
Appendix C：26dB bandwidth

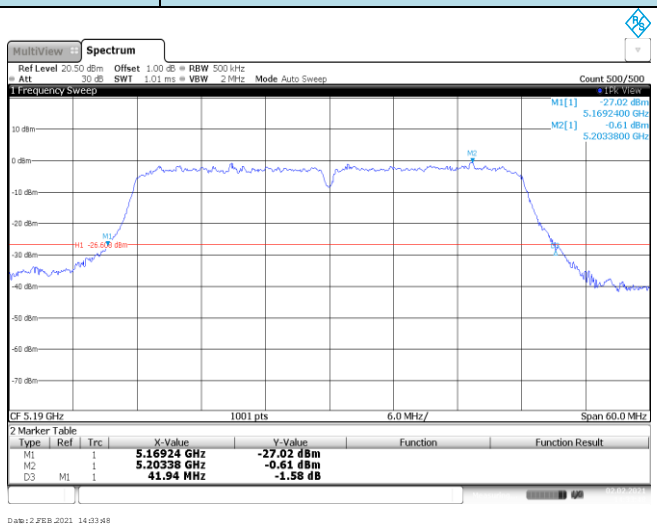
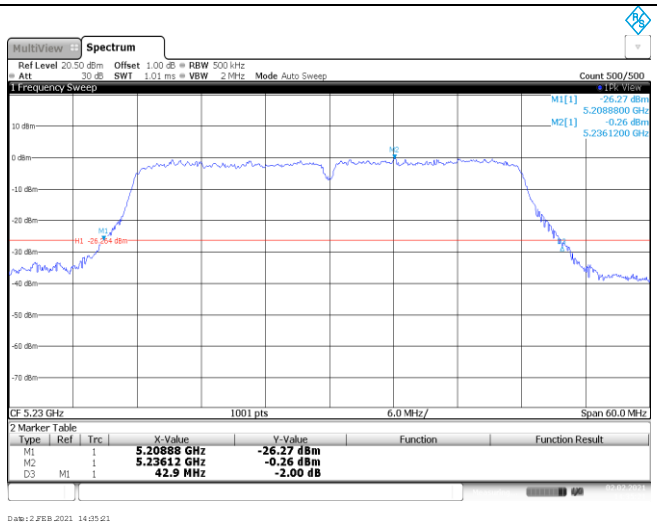
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH_L	21.96	Pass
			CH_M	21.72	
			CH_H	21.99	
		802.11n	CH_L	22.05	Pass
			CH_M	21.69	
			CH_H	21.87	
		802.11a	CH_L	21.15	Pass
			CH_M	21.60	
			CH_H	21.57	
	40	802.11ac	CH_L	42.24	Pass
			CH_H	42.48	
		802.11n	CH_L	41.94	Pass
			CH_H	42.90	
	80	802.11ac	CH_M	82.44	Pass

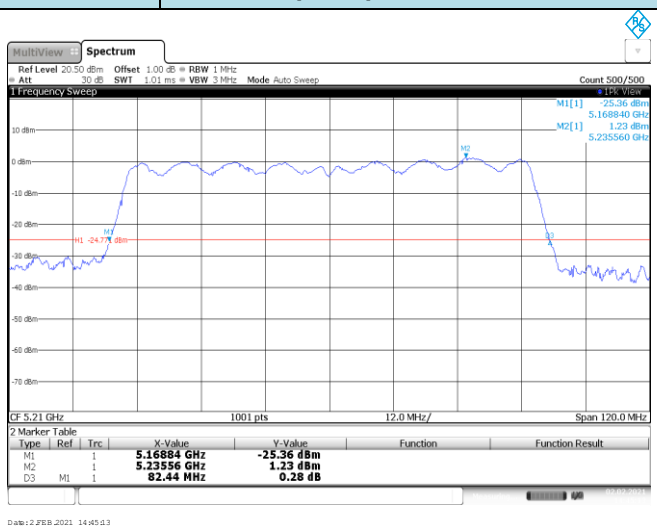
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band I	802.11a
CH_L	
CH_M	
CH_H	

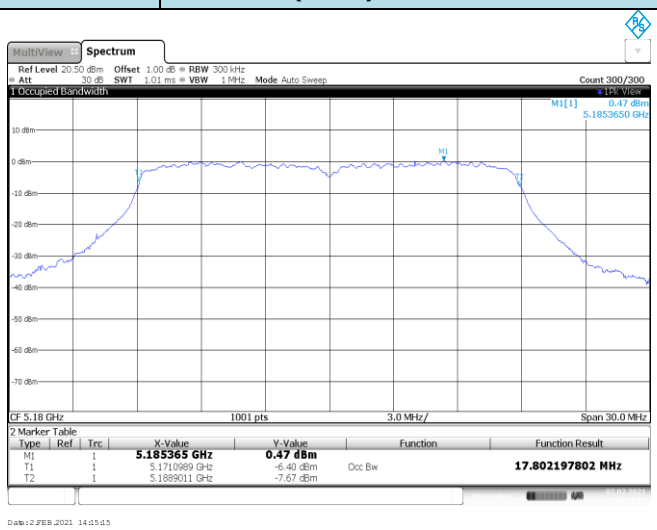
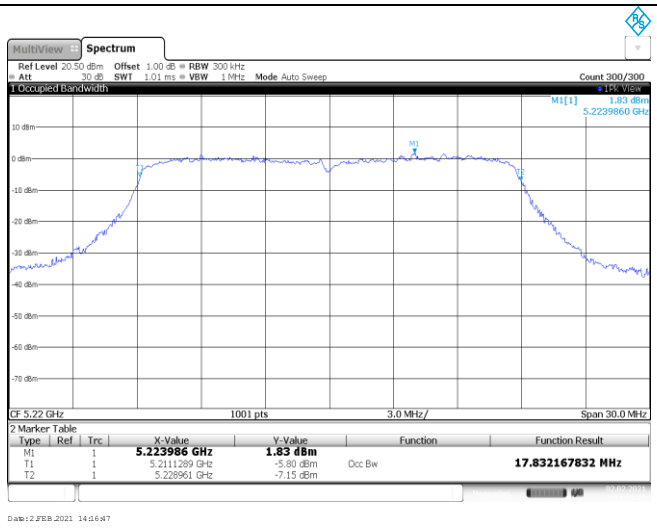
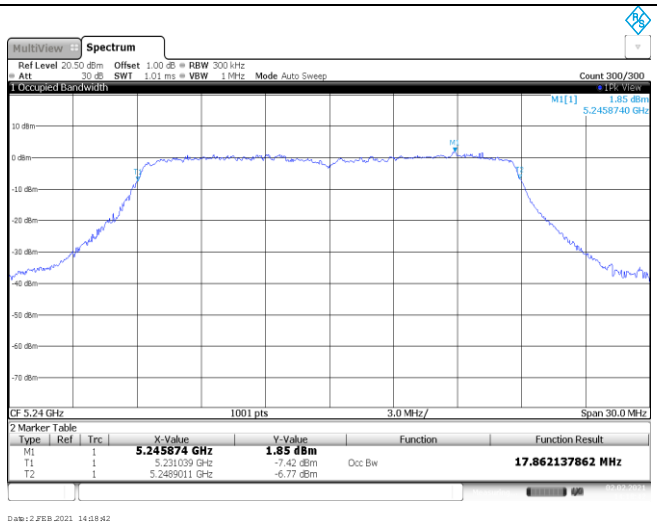
Band I	802.11ac (HT40)
CH_L	
CH_H	

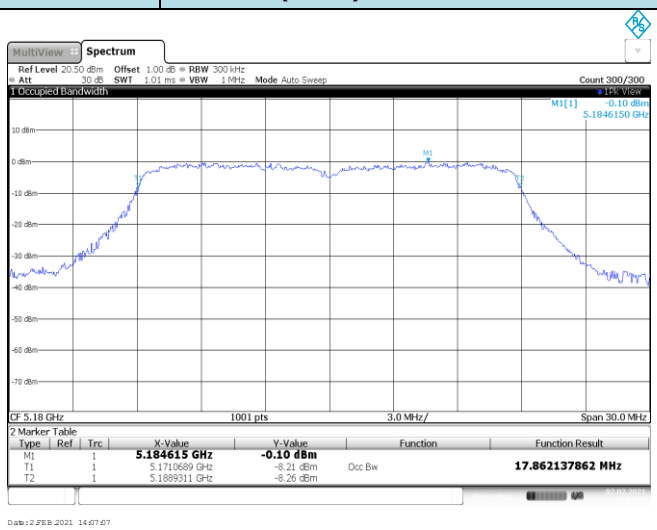
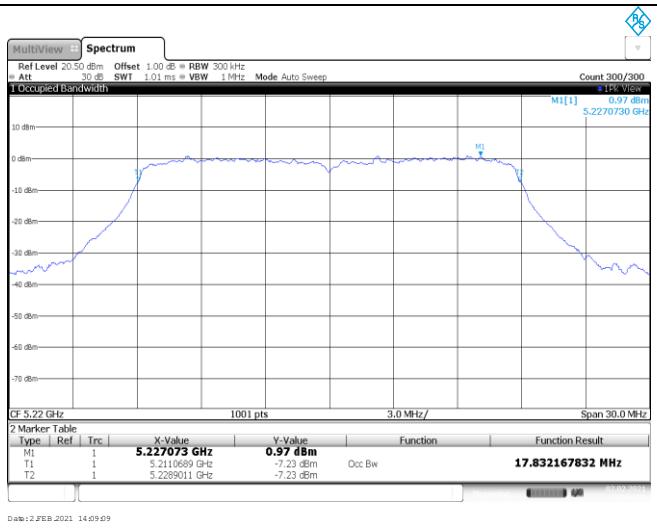
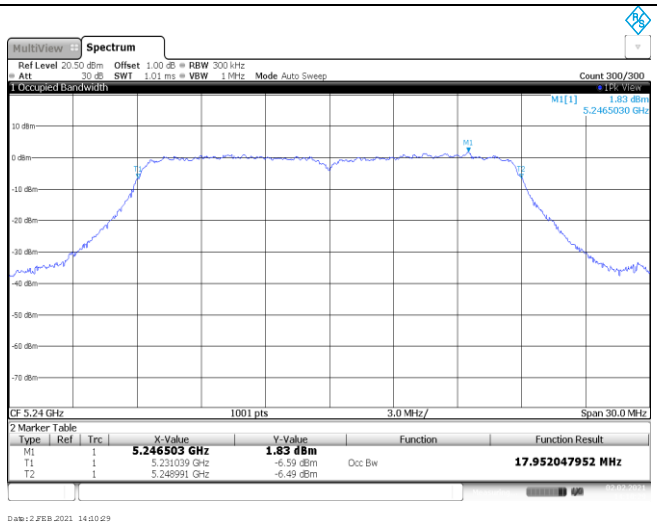
Band I	802.11n (HT40)
CH_L	
CH_H	

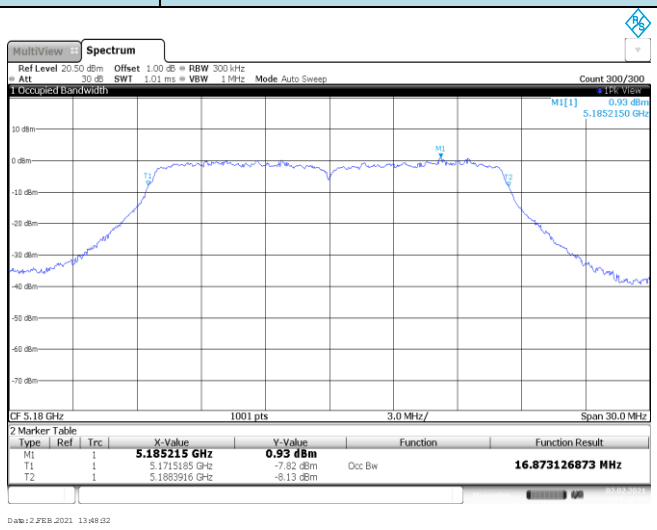
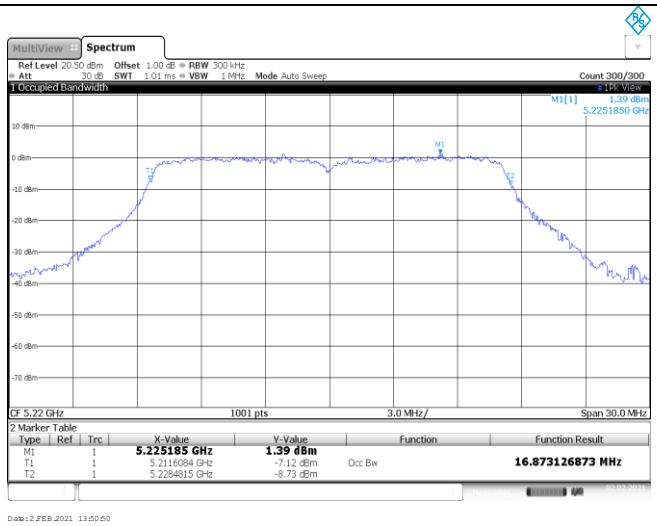
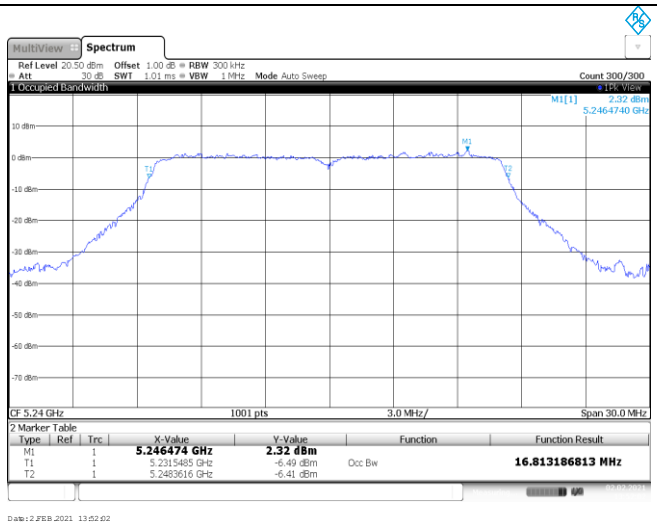
Band I	802.11ac (HT80)
CH_M	

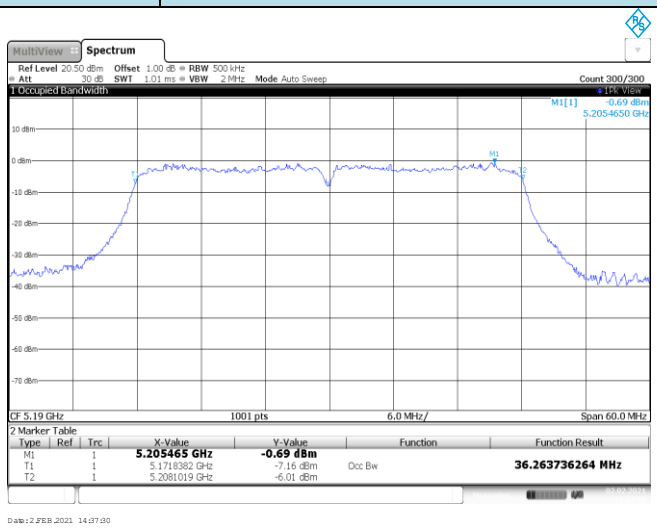
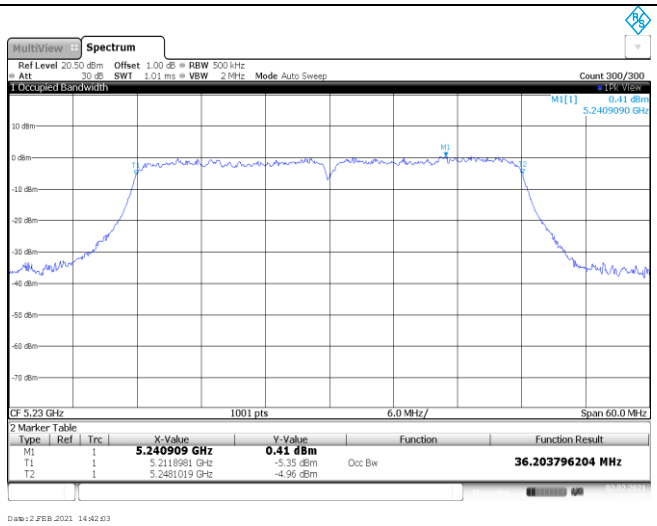
Appendix D：99% Occupy bandwidth

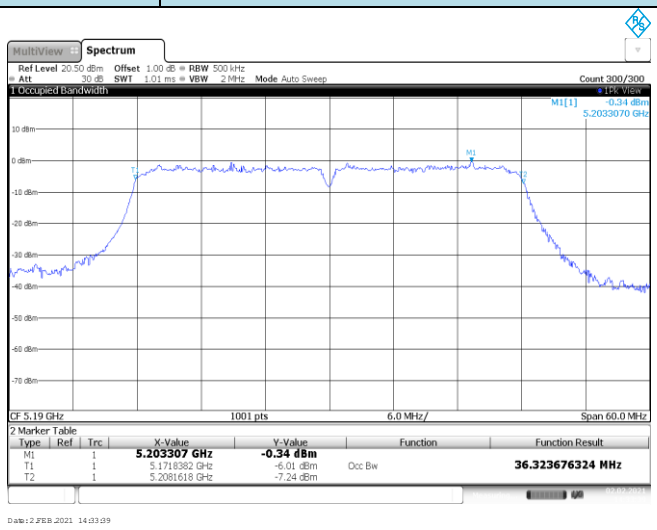
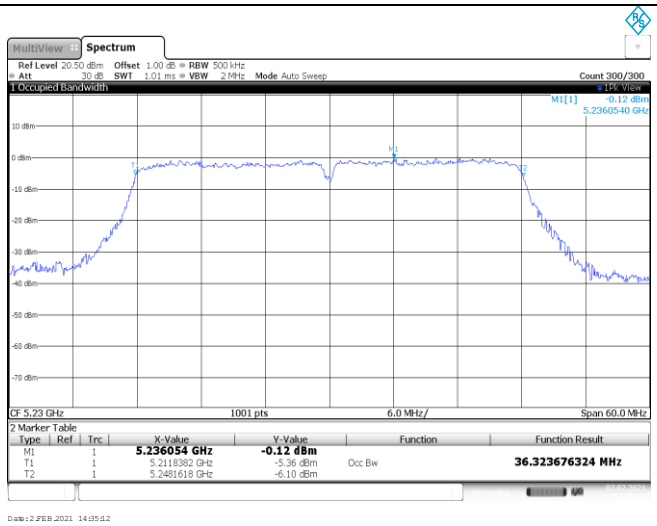
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwith (MHz)	Result
I	20	802.11ac	CH_L	17.80	Pass
			CH_M	17.83	
			CH_H	17.86	
		802.11n	CH_L	17.86	Pass
			CH_M	17.83	
			CH_H	17.95	
		802.11a	CH_L	16.87	Pass
			CH_M	16.87	
			CH_H	16.81	
	40	802.11ac	CH_L	36.26	Pass
			CH_H	36.20	
		802.11n	CH_L	36.32	Pass
			CH_H	36.32	
	80	802.11ac	CH_M	75.64	Pass
IV	20	802.11ac	CH_L	17.68	Pass
			CH_M	17.83	
			CH_H	17.77	
		802.11n	CH_L	17.86	Pass
			CH_M	17.80	
			CH_H	17.98	
		802.11a	CH_L	16.87	Pass
			CH_M	16.87	
			CH_H	16.78	
	40	802.11ac	CH_L	36.26	Pass
			CH_H	36.26	
		802.11n	CH_L	36.47	Pass
			CH_H	36.21	
	80	802.11ac	CH_M	75.52	Pass

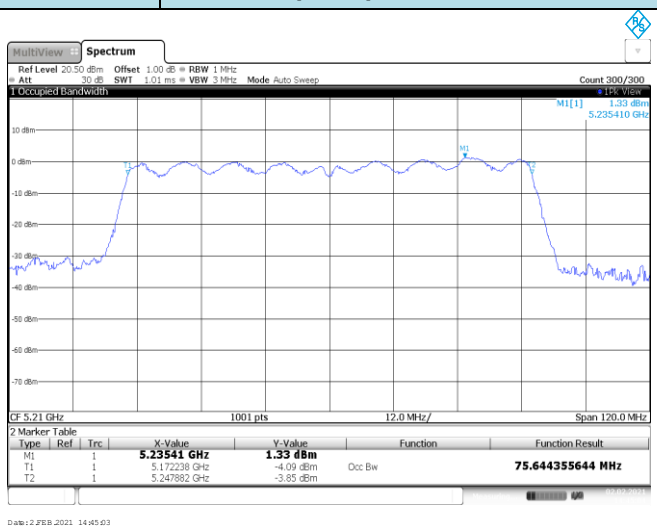
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

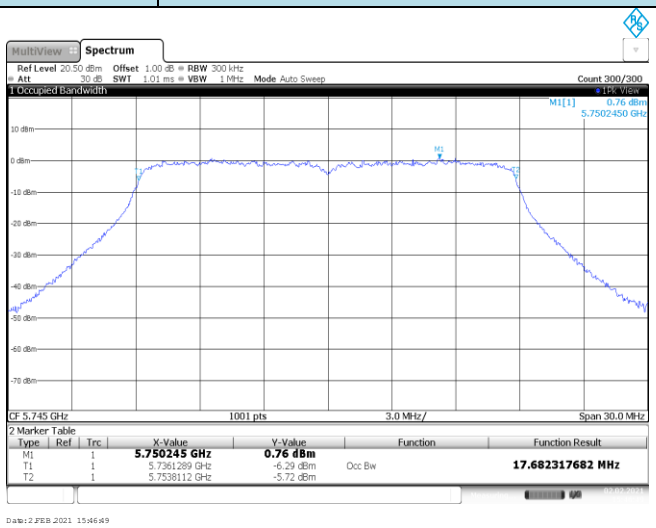
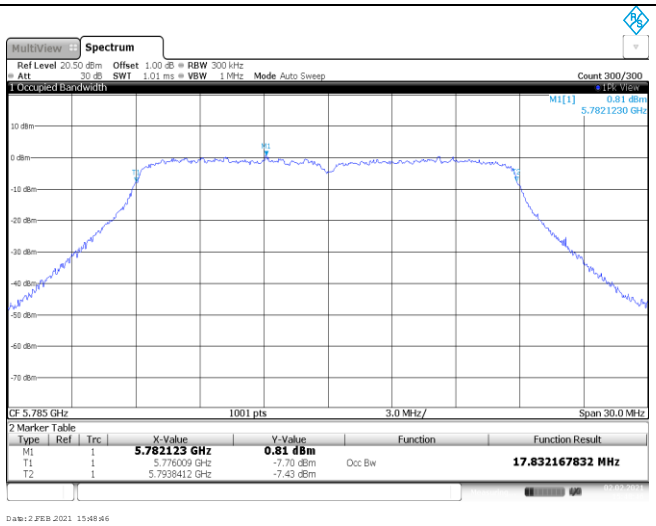
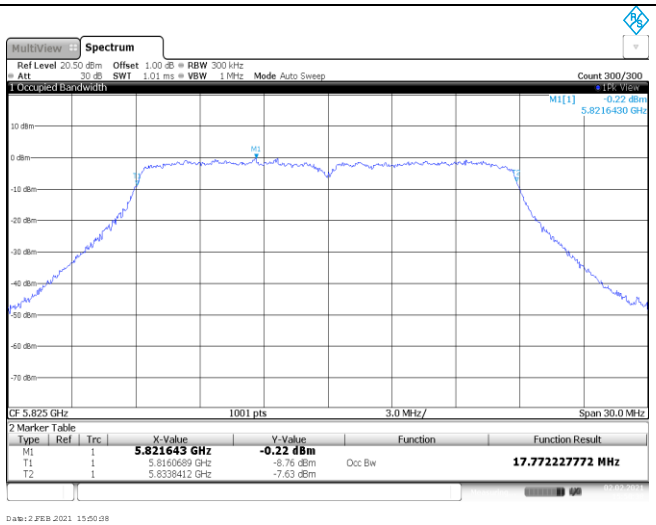
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

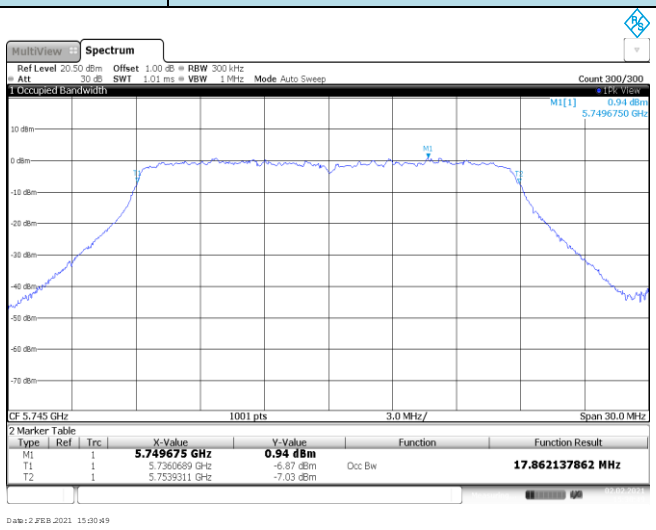
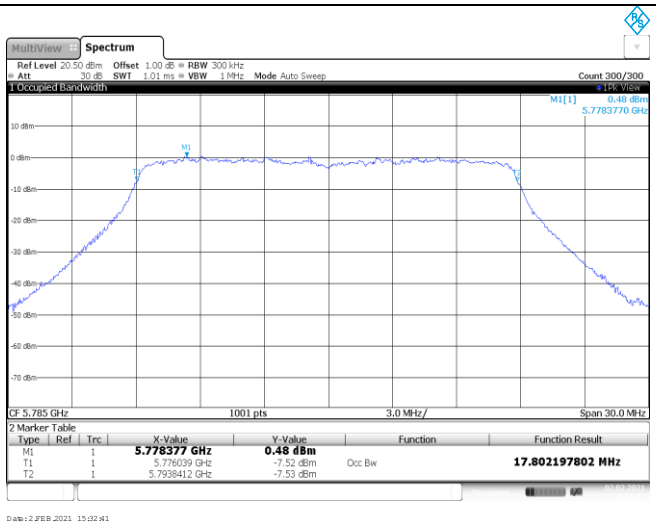
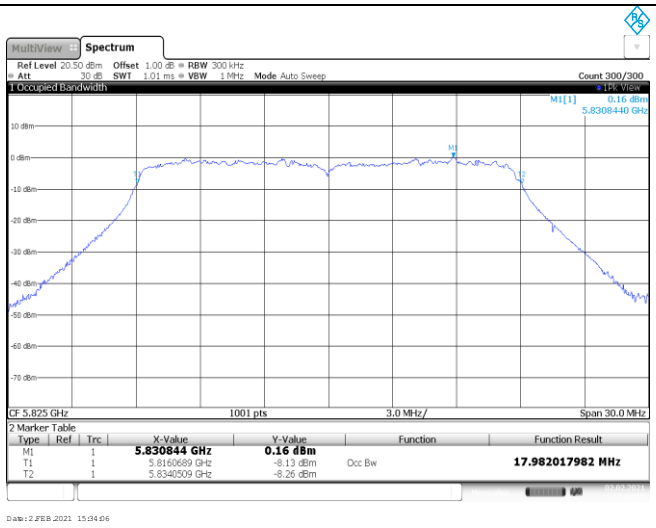
Band I	802.11a
CH_L	
CH_M	
CH_H	

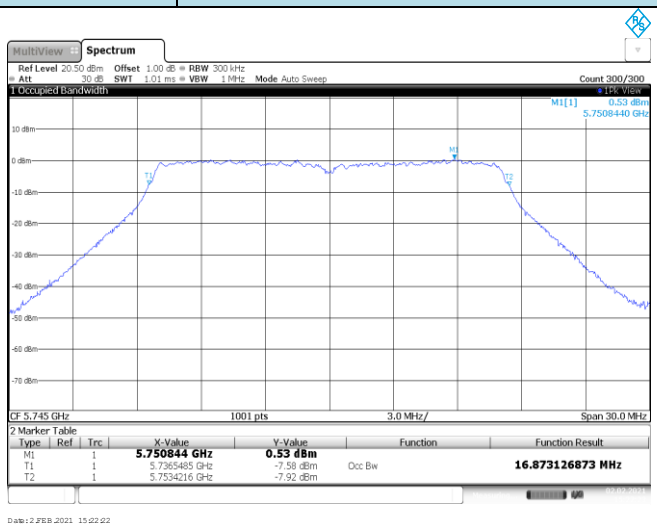
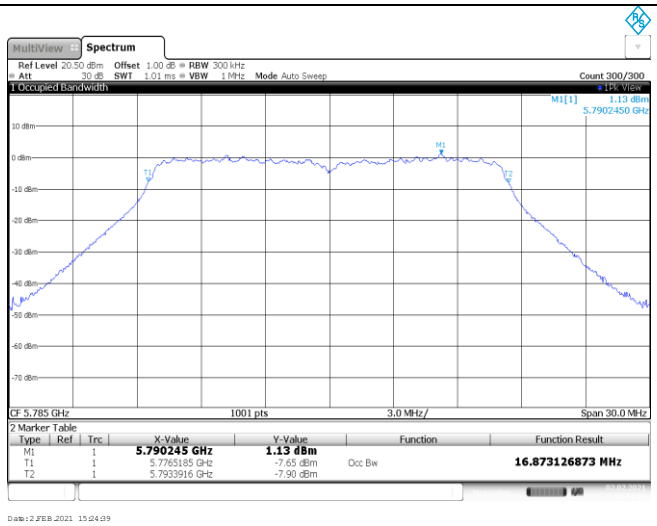
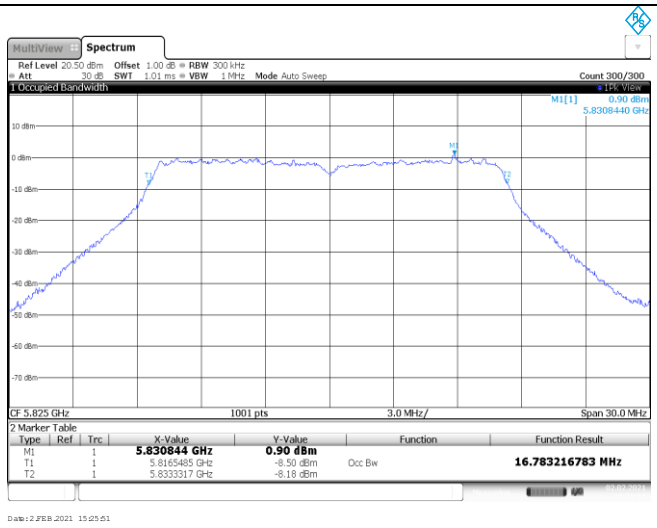
Band I	802.11ac (HT40)
CH_L	
CH_H	

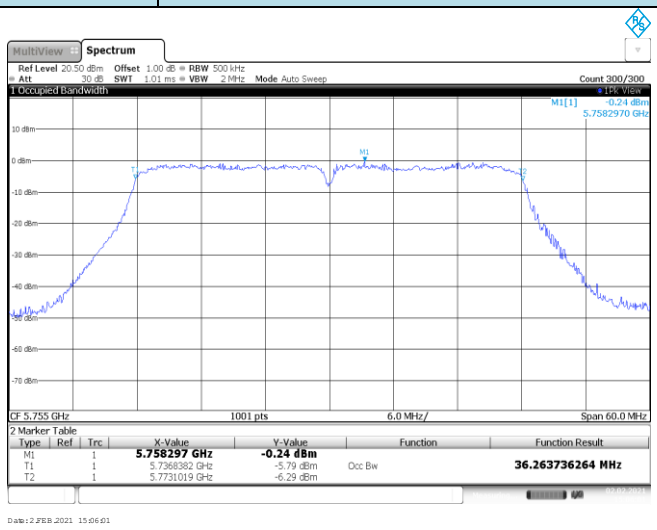
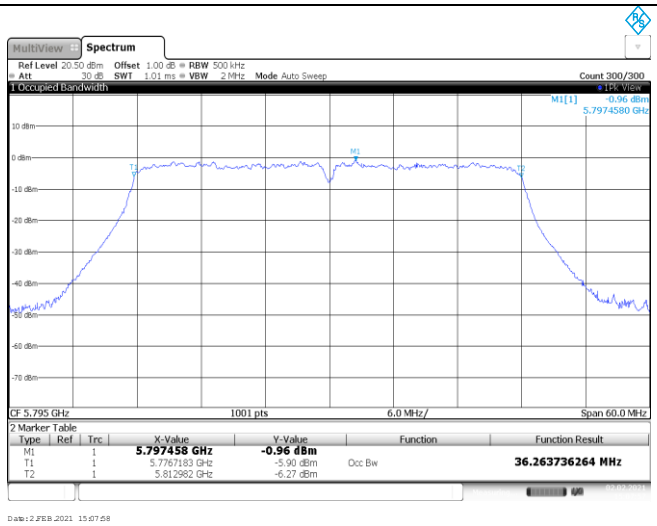
Band I	802.11n (HT40)
CH_L	
CH_H	

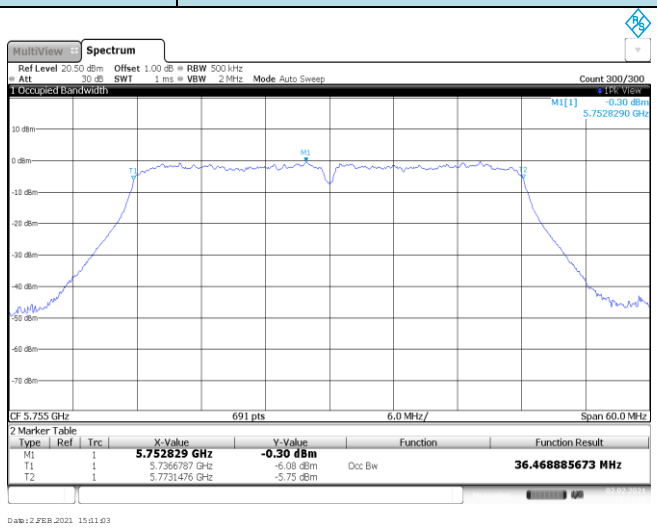
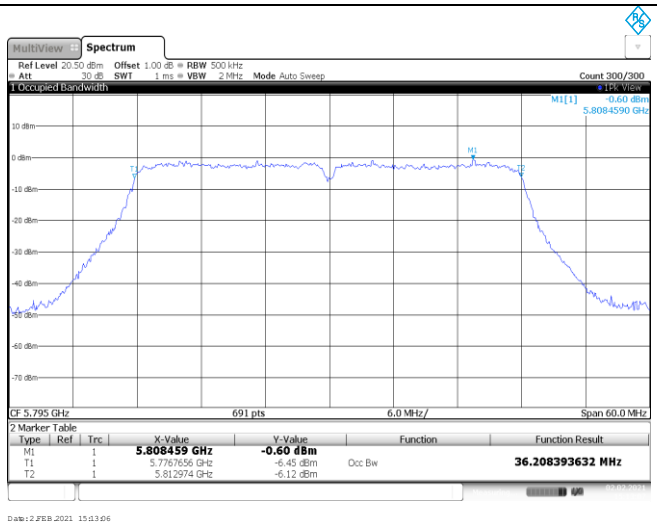
Band I	802.11ac (HT80)
CH_M	

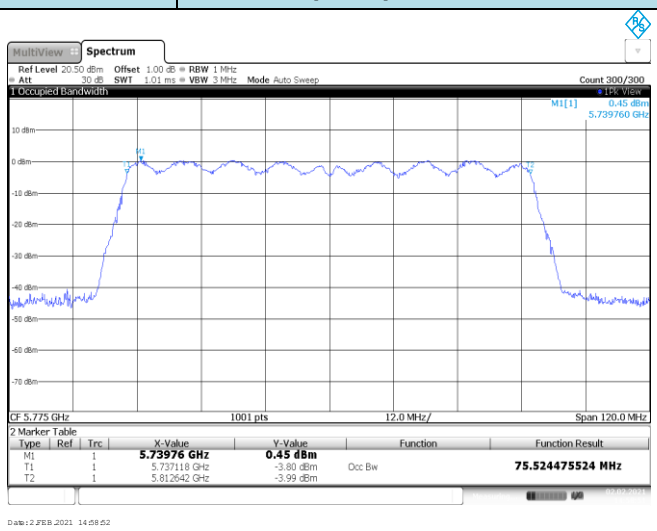
Band IV	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11a
CH_L	
CH_M	
CH_H	

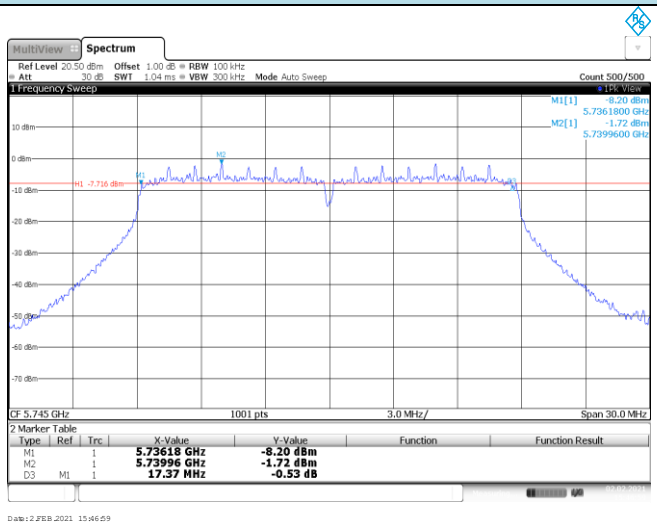
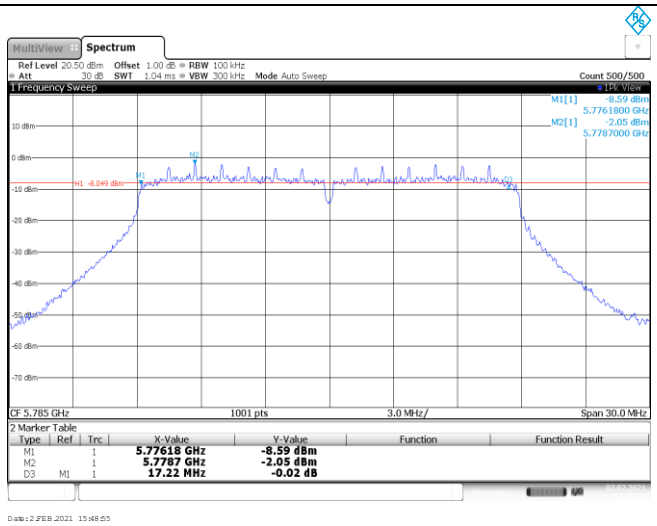
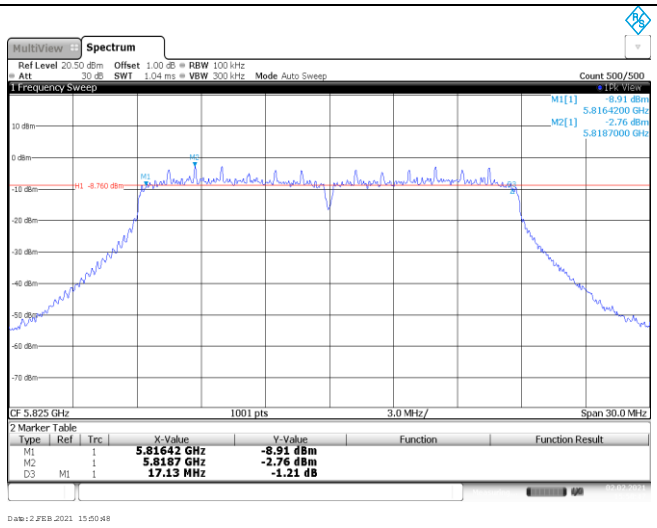
Band IV	802.11ac (HT40)
CH_L	
CH_H	

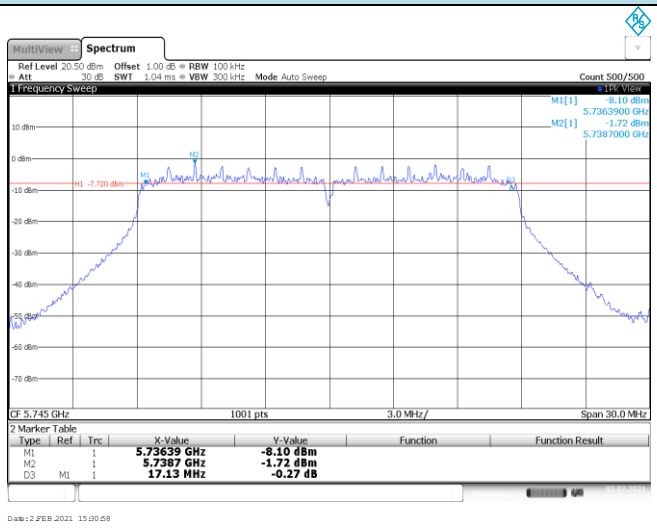
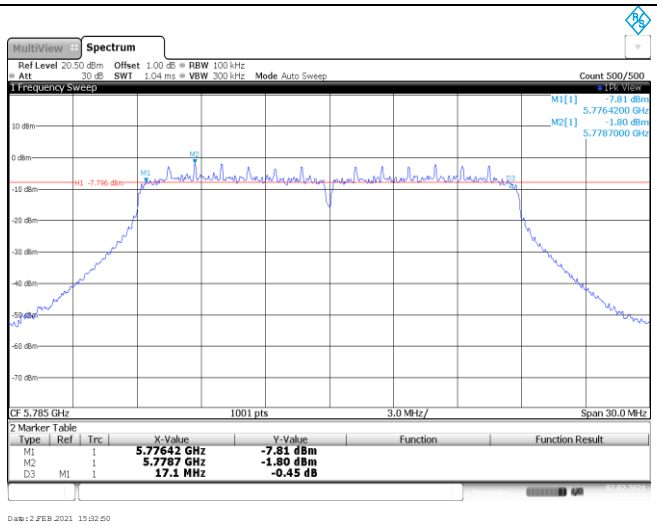
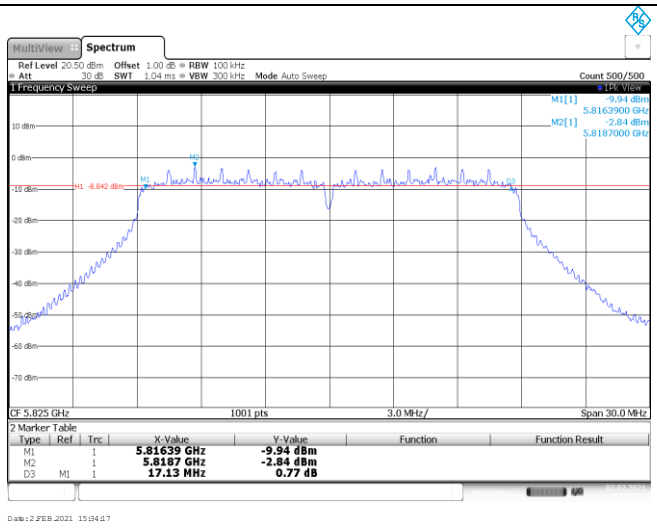
Band IV	802.11n (HT40)
CH_L	
CH_H	

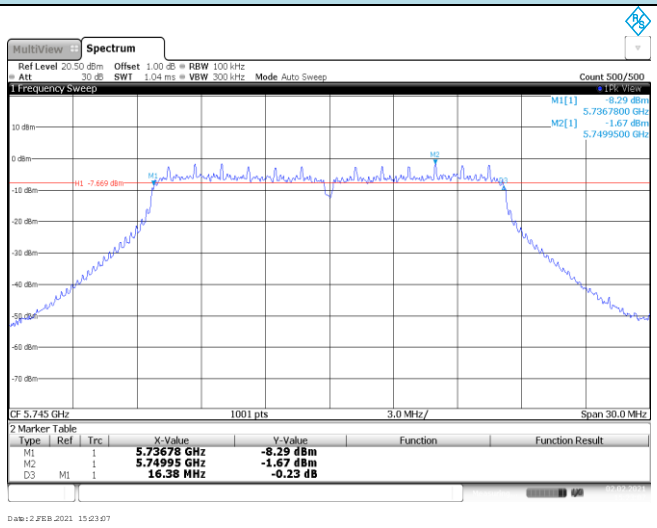
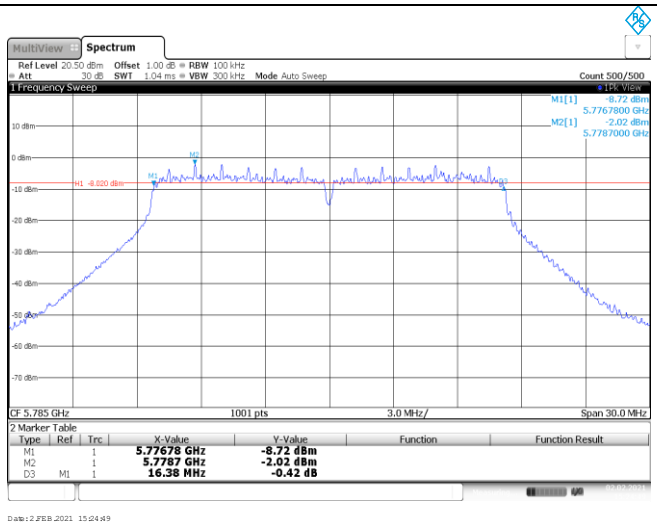
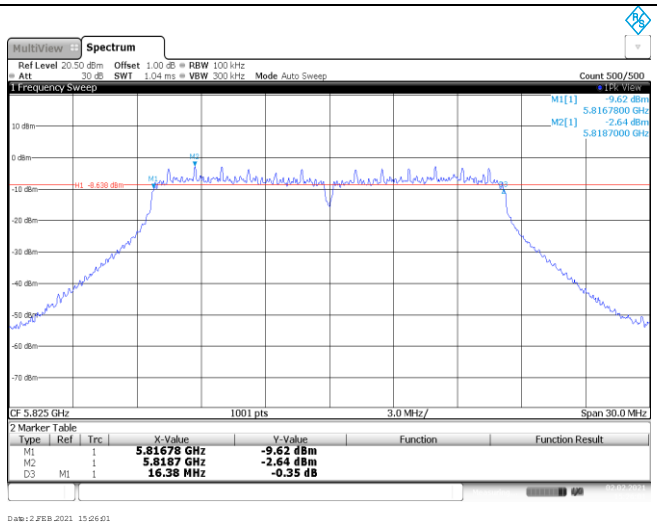
Band IV	802.11ac (HT80)
CH_M	

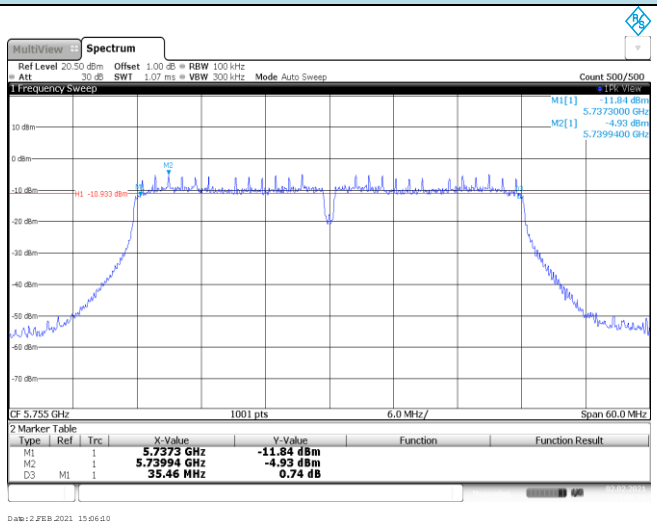
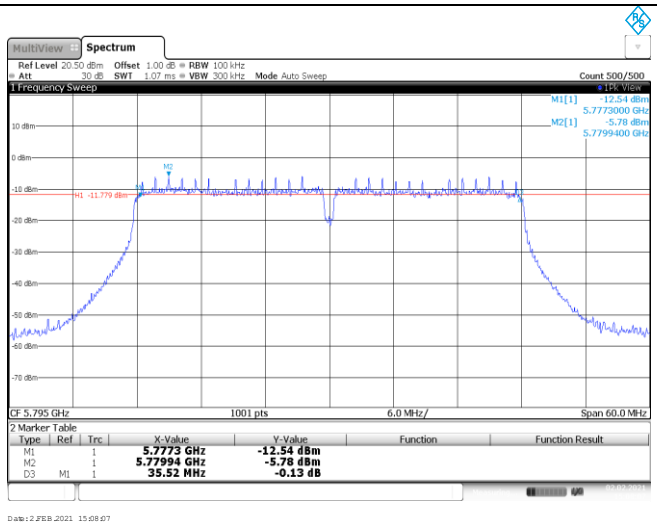
Appendix E：6dB Bandwidth

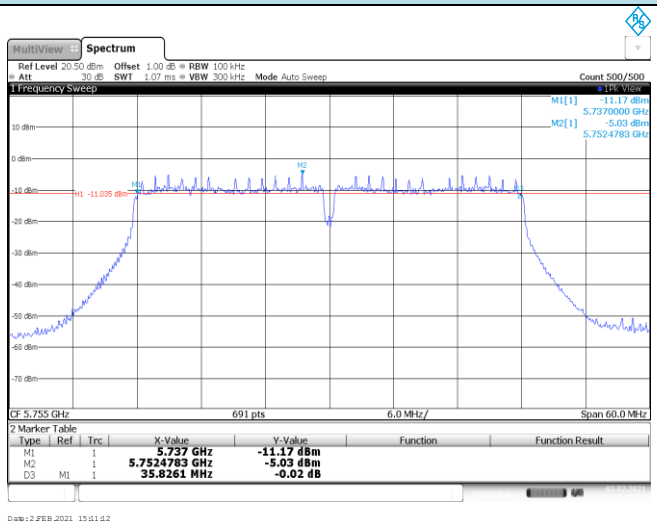
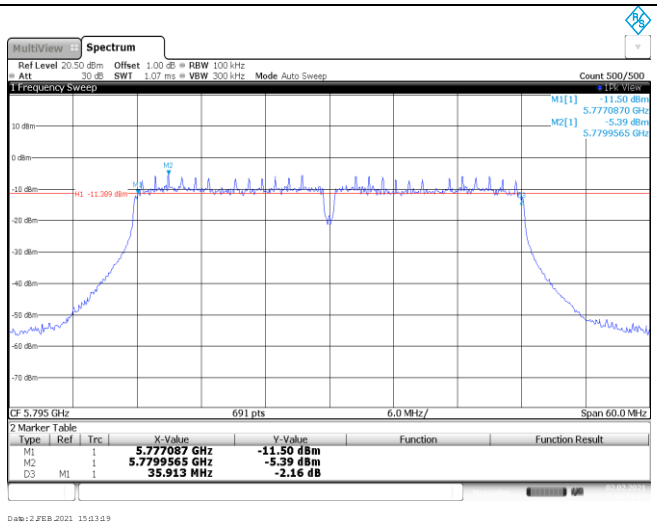
Band	Bandwidth (MHz)	Type	Channel	6dB bandwith (MHz)	Result
IV	20	802.11ac	CH_L	17.37	Pass
			CH_M	17.22	
			CH_H	17.13	
		802.11n	CH_L	17.13	Pass
			CH_M	17.10	
			CH_H	17.13	
		802.11a	CH_L	16.38	Pass
			CH_M	16.38	
			CH_H	16.38	
	40	802.11ac	CH_L	35.46	Pass
			CH_H	35.52	
		802.11n	CH_L	35.83	Pass
			CH_H	35.91	
	80	802.11ac	CH_M	75.48	Pass

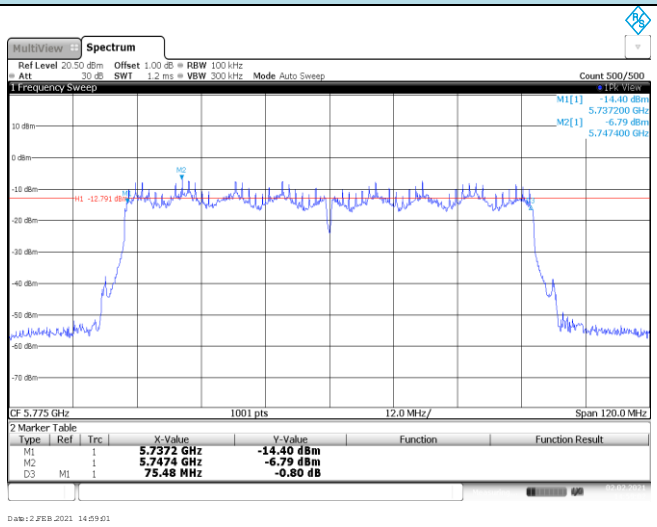
Test channel	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Test channel	802.11n (HT20)
CH_L	
CH_M	
CH_H	

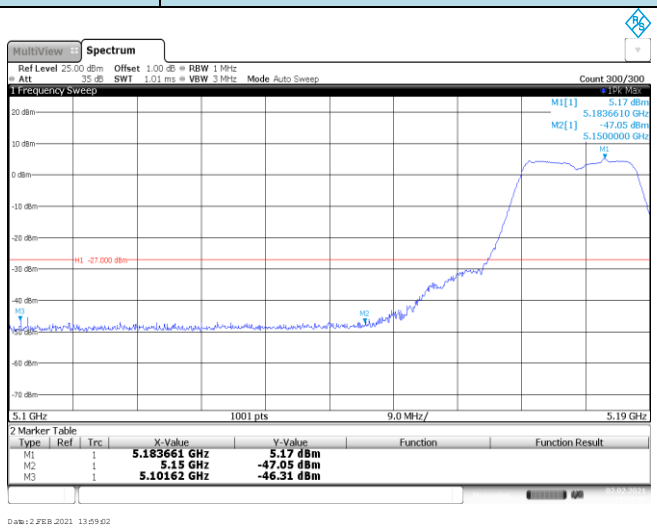
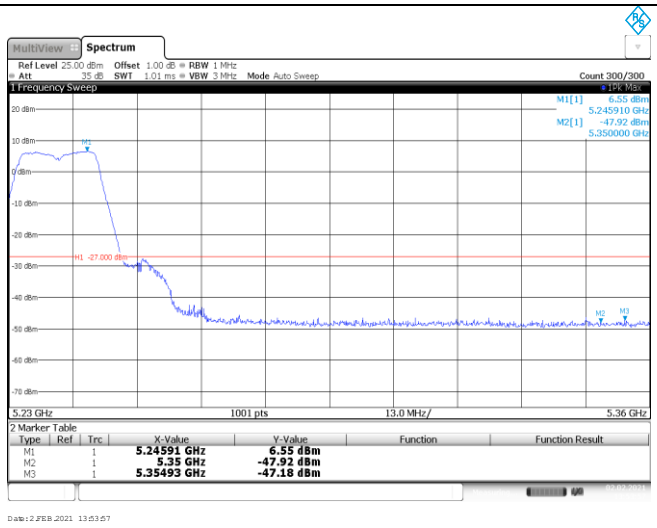
Test channel	802.11a
CH_L	
CH_M	
CH_H	

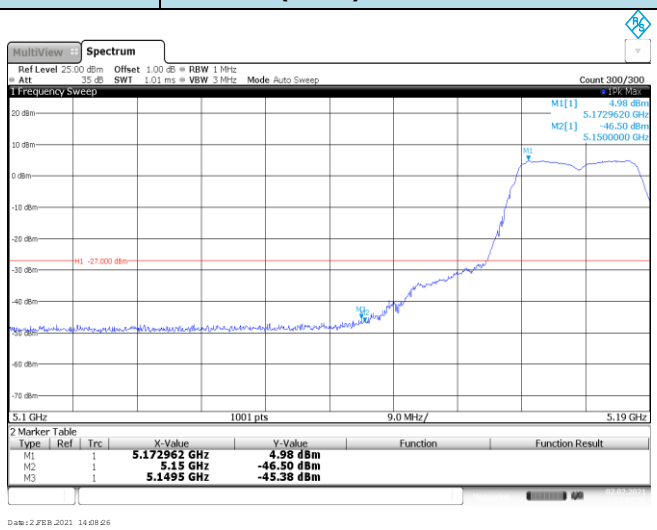
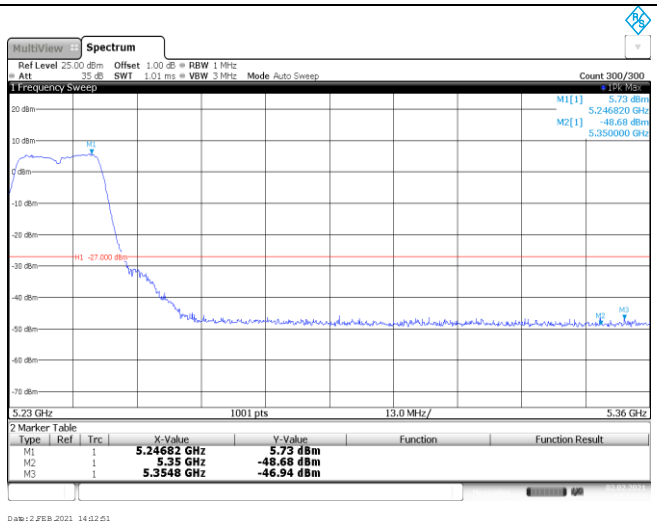
Test channel	802.11ac (HT40)
CH_L	
CH_H	

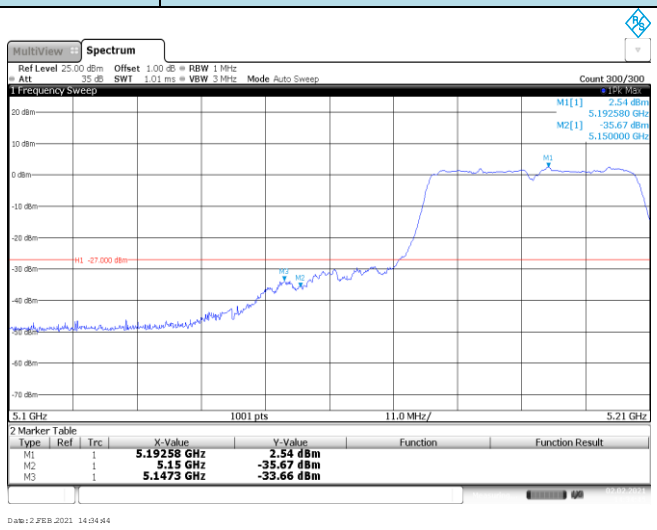
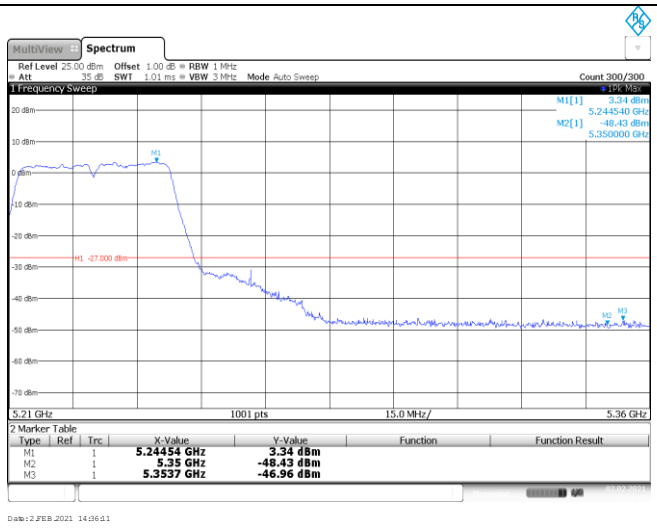
Test channel	802.11n (HT40)
CH_L	
CH_H	

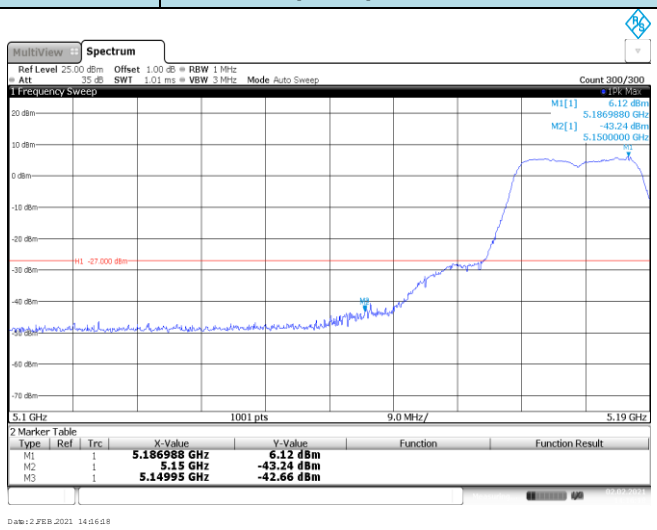
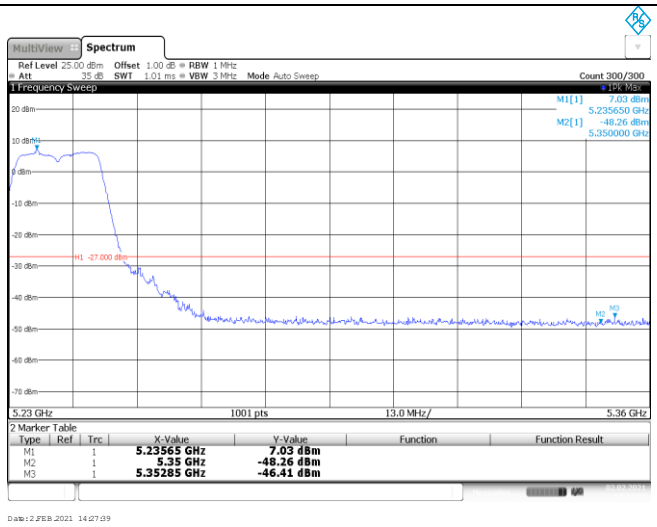
Test channel	802.11ac (HT80)
CH_M	

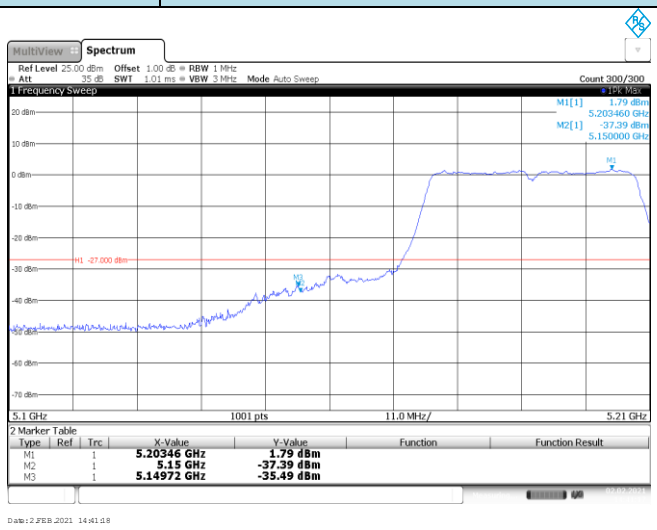
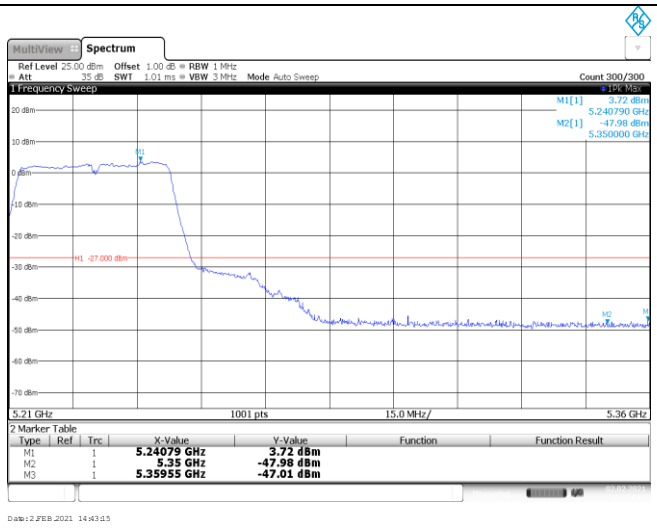
Appendix F：Band edge

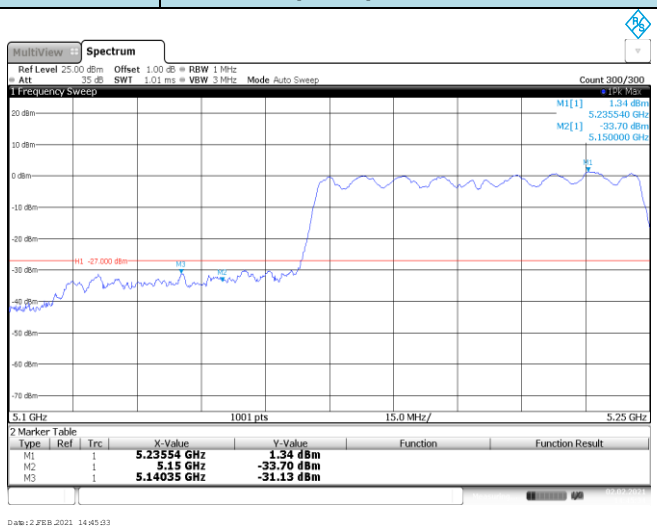
Band I	802.11a
CH_L	
CH_H	

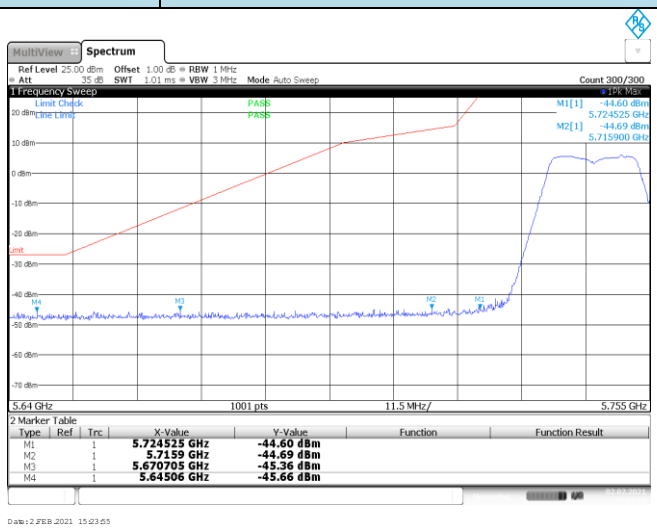
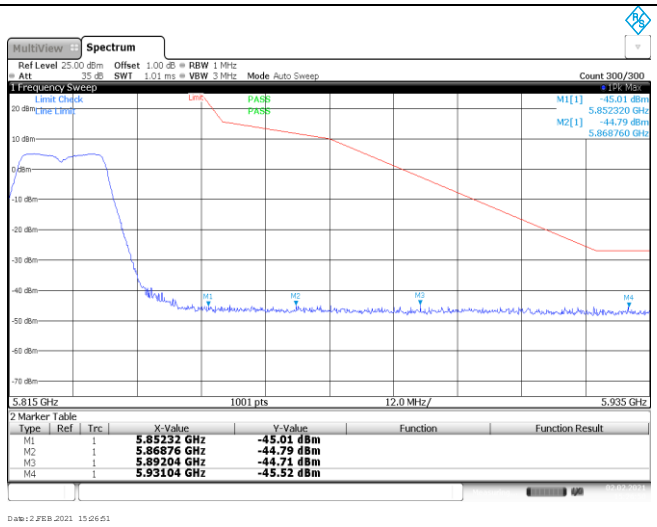
Band I	802.11n (HT20)
CH_L	
CH_H	

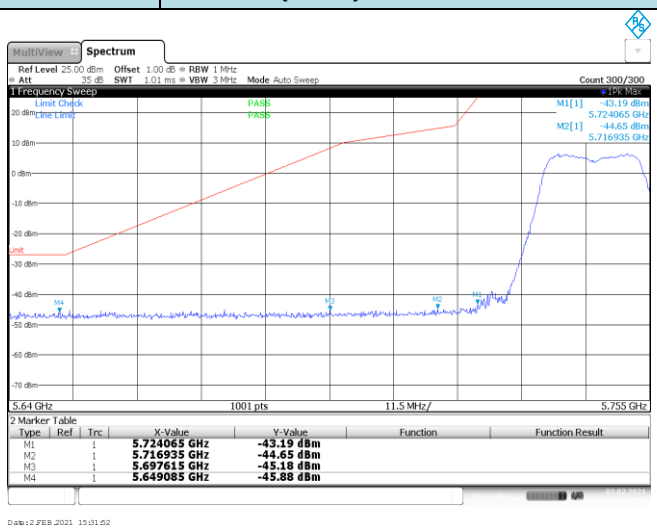
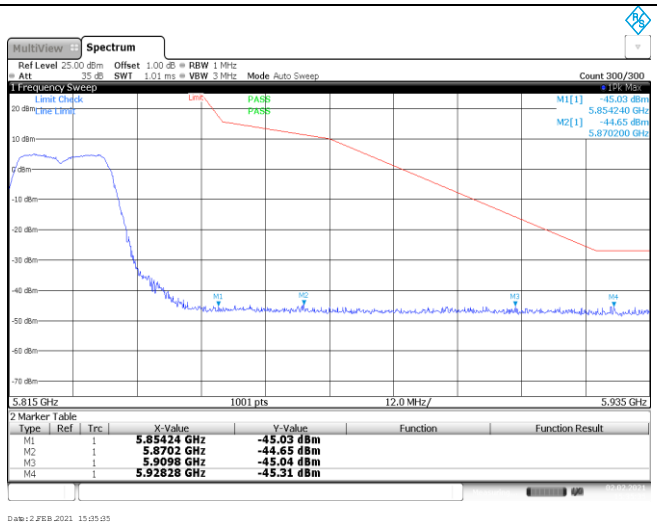
Band I	802.11 n(HT40)
CH_L	
CH_H	

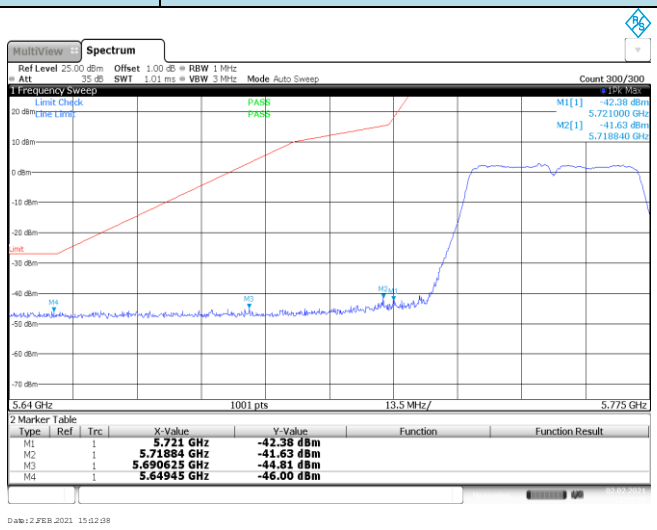
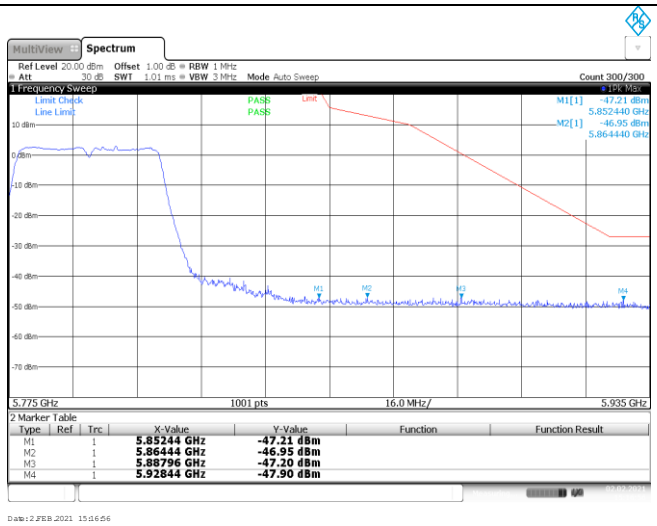
Band I	802.11ac (HT20)
CH_L	
CH_H	

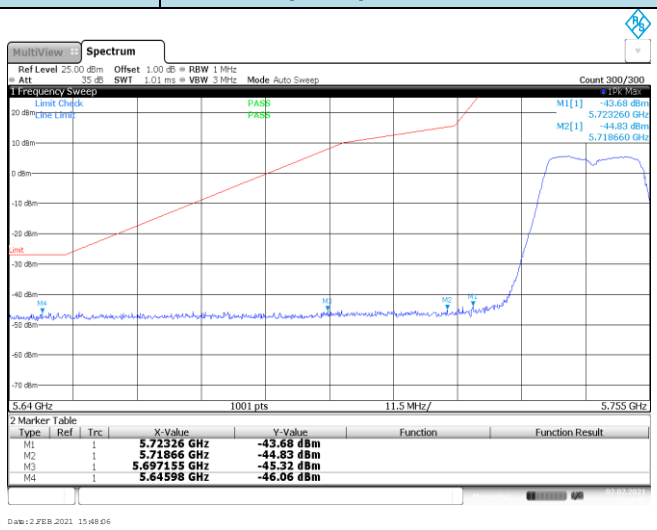
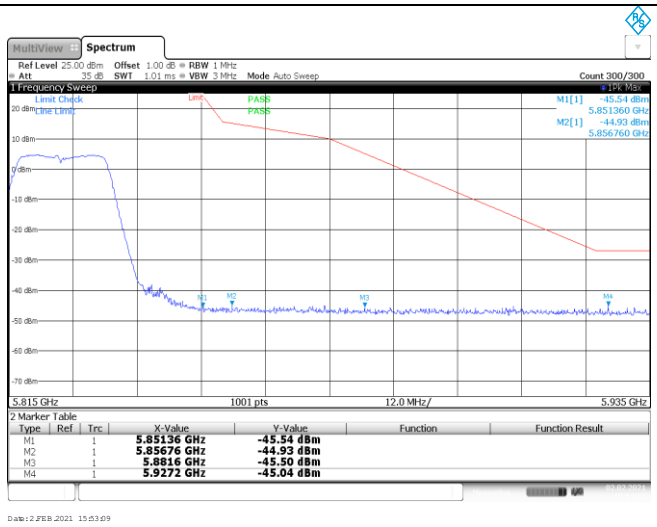
Band I	802.11 ac(HT40)
CH_L	
CH_H	

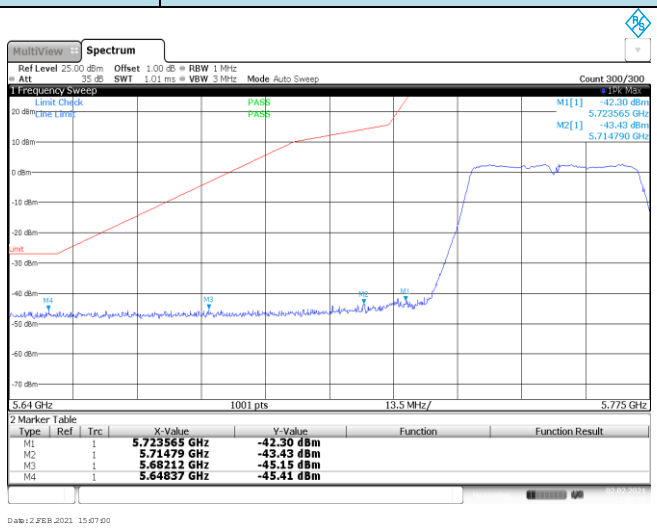
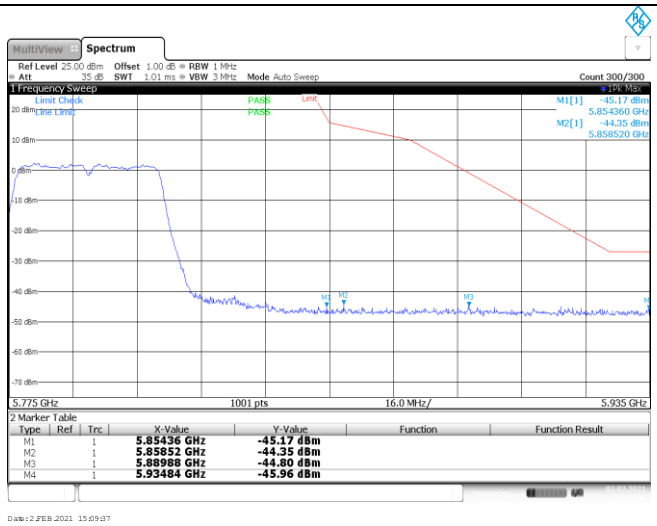
Band I	802.11 ac(HT80)
CH_L	

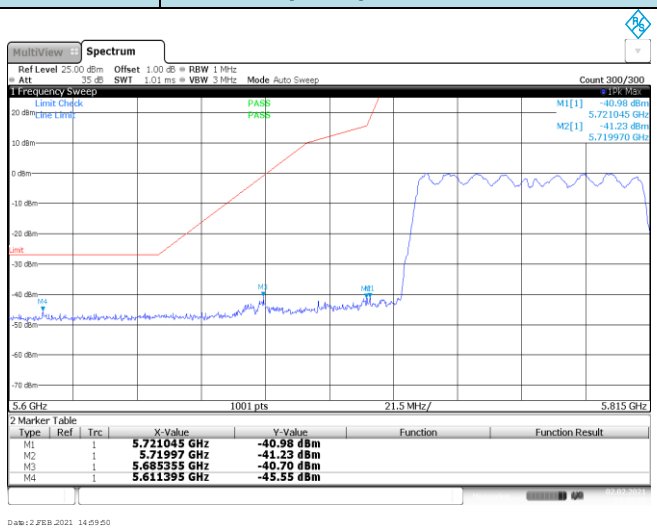
Band IV	802.11a
CH_L	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_H	

Band IV	802.11 n(HT40)
CH_L	
CH_H	

Band IV	802.11ac(HT20)
CH_L	
CH_H	

Band IV	802.11ac(HT40)
CH_L	
CH_H	

Band IV	802.11ac(HT80)
CH_L	

Appendix G：Frequency stability

Voltage VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T_N	V_L	-3000.00	-0.57915	PASS
T_N	V_N	-28000.00	-5.40541	PASS
T_N	V_H	17000.00	3.28185	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T_N	V_L	55900.00	9.73020	PASS
T_N	V_N	36000.00	6.26632	PASS
T_N	V_H	57900.00	10.07833	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	41000.00	7.91506	PASS
V_N	-10	50000.00	9.65251	PASS
V_N	0	58900.00	11.37066	PASS
V_N	10	64900.00	12.52896	PASS
V_N	20	72900.00	14.07336	PASS
V_N	30	77900.00	15.03861	PASS
V_N	40	83900.00	16.19691	PASS
V_N	50	85900.00	16.58301	PASS

Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	62900.00	10.94865	PASS
V_N	-10	61900.00	10.77459	PASS
V_N	0	64900.00	11.29678	PASS
V_N	10	63900.00	11.12272	PASS
V_N	20	62900.00	10.94865	PASS
V_N	30	63900.00	11.12272	PASS
V_N	40	61900.00	10.77459	PASS
V_N	50	62900.00	10.94865	PASS

----------End of Report----------