APPENDIX REPORT

Project No.	SHT2108128604EW	Radio Specification	WIFI 5G
Test sample No.	YPHT2107089006	Model No.	TS-61
Start test date	2021-09-08	Finish date	2021-09-08
Temperature	25.4℃	Humidity	39%
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

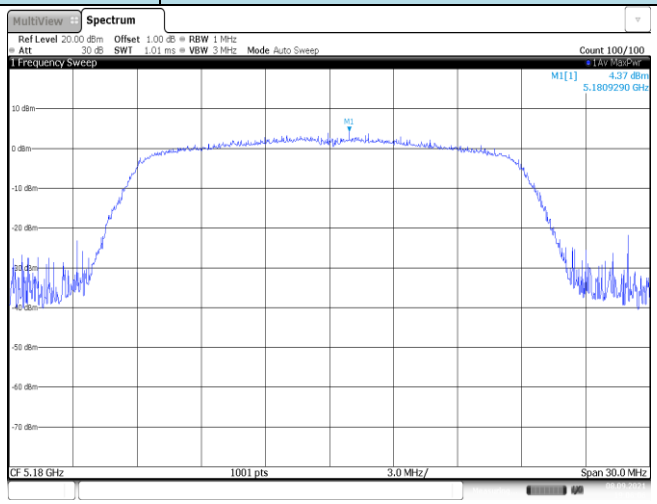
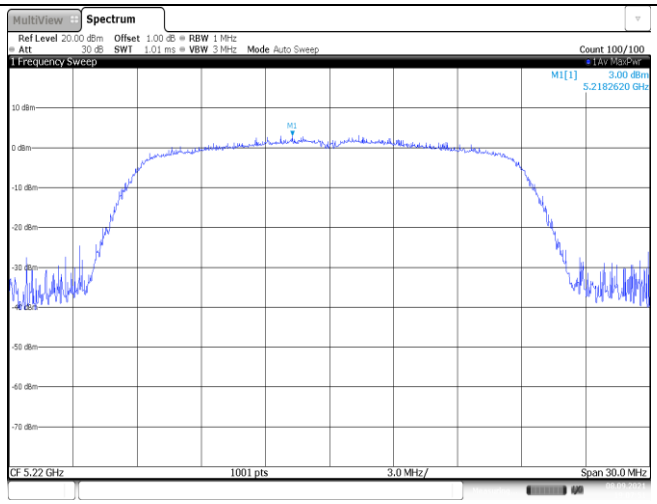
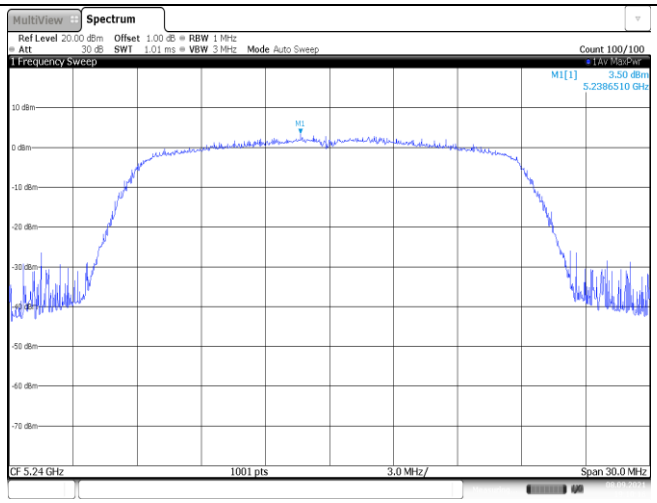
Appendix A: Maximum Conducted Output Power

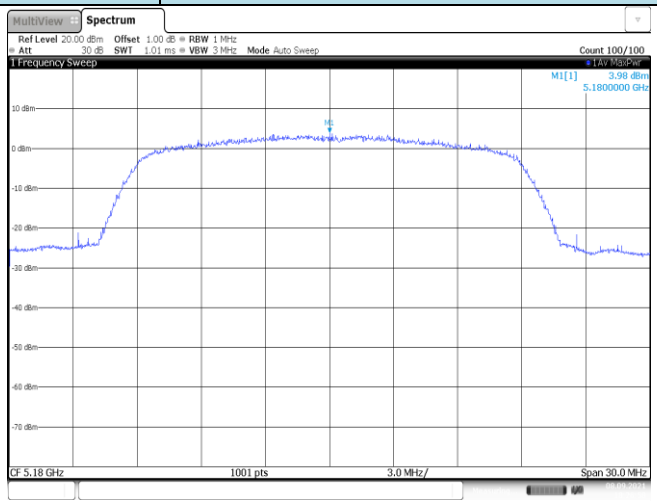
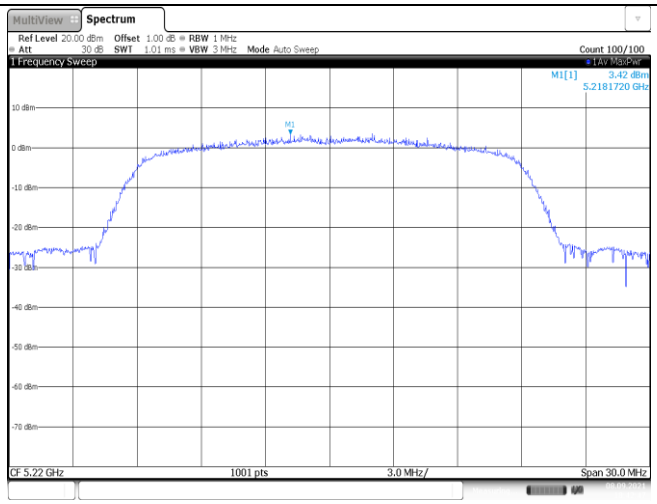
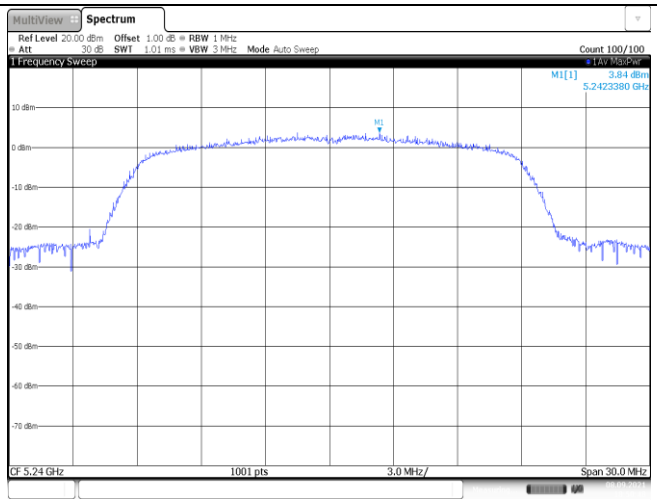
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor (dB)	Conducted Output Power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH_L	12.16	96.58	0.15	12.31	24.00	Pass
			CH_M	12.20	96.58	0.15	12.35		
			CH_H	12.92	96.58	0.15	13.07		
		802.11n	CH_L	12.14	96.55	0.15	12.29	24.00	Pass
			CH_M	12.66	96.55	0.15	12.81		
			CH_H	13.10	96.55	0.15	13.25		
		802.11a	CH_L	12.65	96.77	0.14	12.79	24.00	Pass
			CH_M	11.94	96.77	0.14	12.08		
			CH_H	12.87	96.68	0.15	13.02		
	40	802.11ac	CH_L	12.18	93.57	0.29	12.47	24.00	Pass
			CH_H	12.71	93.48	0.29	13.00		
		802.11n	CH_L	12.00	93.45	0.29	12.29	24.00	Pass
			CH_H	12.68	93.53	0.29	12.97		
	80	802.11ac	CH_M	12.52	87.52	0.58	13.10	24.00	Pass
IV	20	802.11ac	CH_L	12.77	96.58	0.15	12.92	30.00	Pass
			CH_M	12.04	96.57	0.15	12.19		
			CH_H	11.89	96.57	0.15	12.04		
		802.11n	CH_L	13.33	96.55	0.15	13.48	30.00	Pass
			CH_M	12.57	96.55	0.15	12.72		
			CH_H	12.54	96.55	0.15	12.69		
		802.11a	CH_L	12.97	96.77	0.14	13.11	30.00	Pass
			CH_M	12.23	96.77	0.14	12.37		
			CH_H	12.09	96.77	0.14	12.23		
	40	802.11ac	CH_L	12.61	93.48	0.29	12.90	30.00	Pass
			CH_H	12.15	93.57	0.29	12.44		
		802.11n	CH_L	12.78	93.53	0.29	13.07	30.00	Pass
			CH_H	12.26	93.45	0.29	12.55		
	80	802.11ac	CH_M	12.50	87.67	0.57	13.07	30.00	Pass

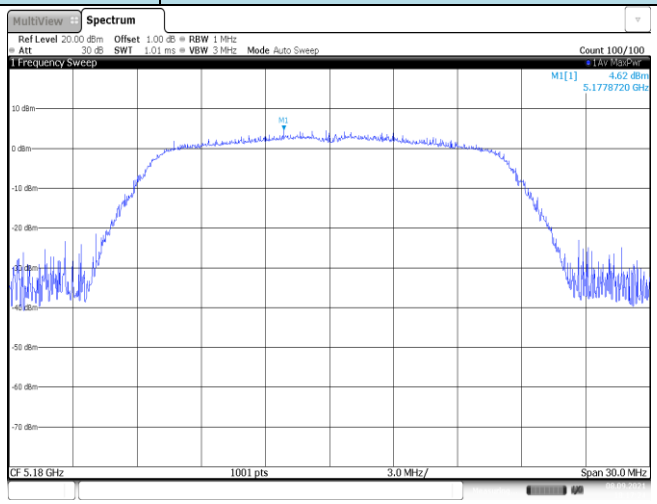
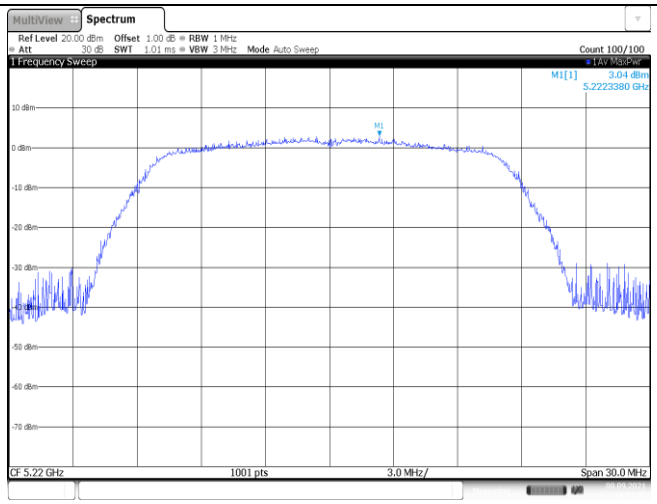
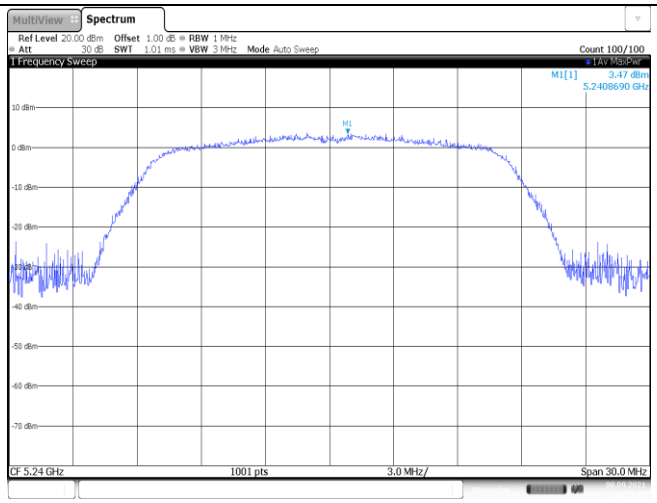
NOTE: duty cycle factor =10LOG(1/ duty cycle)

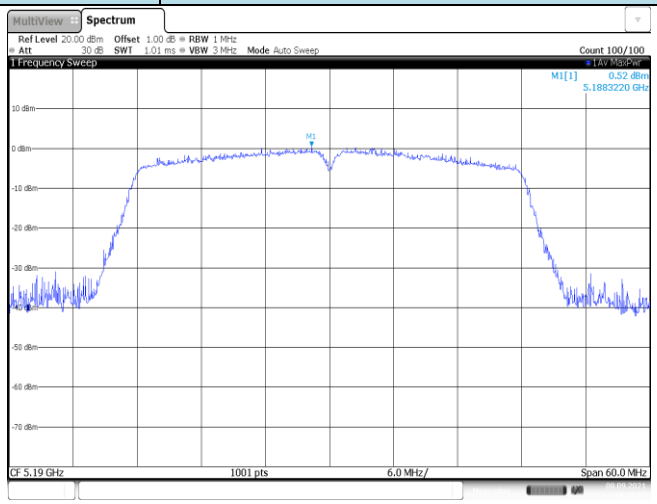
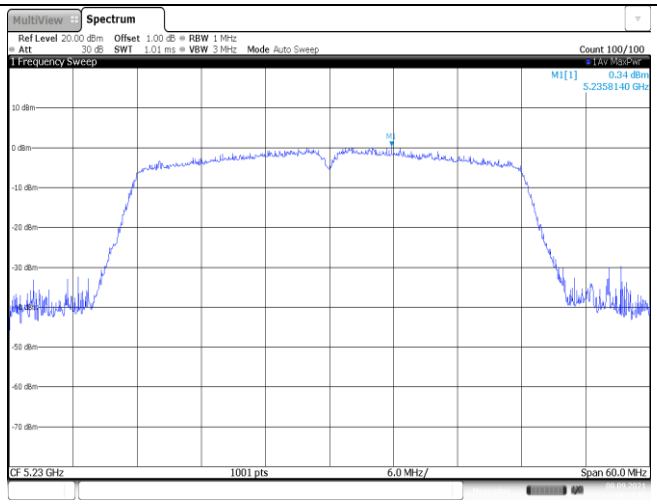
Appendix B：Maximum Power Spectral Density

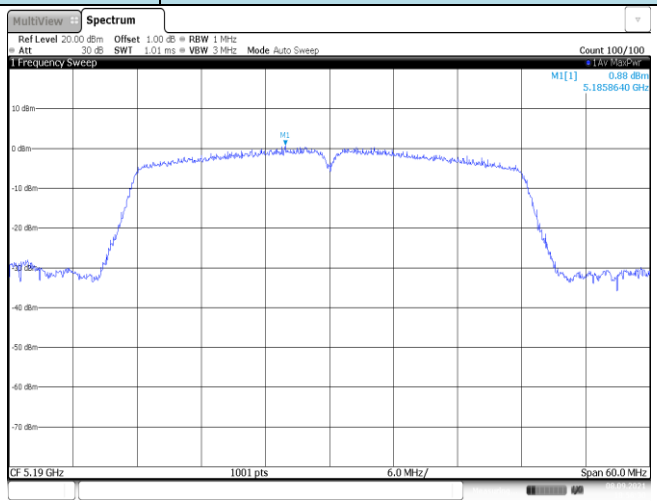
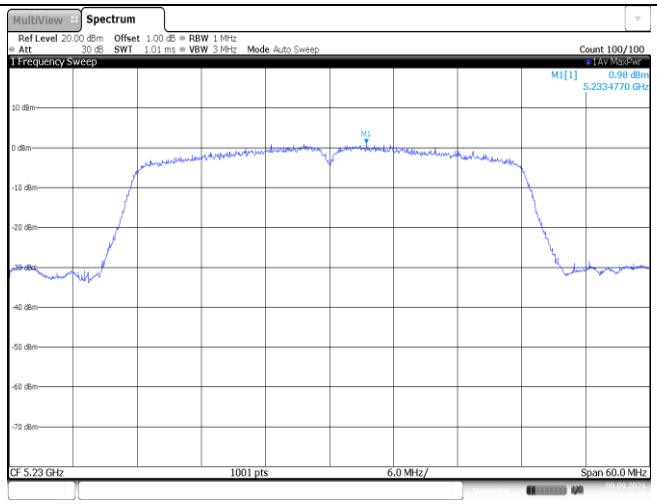
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor（dB）	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11 ac	CH_L	4.37	96.58	0.15	4.52	11.00	Pass
			CH_M	3.00	96.58	0.15	3.15		
			CH_H	3.50	96.58	0.15	3.65		
		802.11 n	CH_L	3.98	96.55	0.15	4.13	11.00	Pass
			CH_M	3.42	96.55	0.15	3.57		
			CH_H	3.84	96.55	0.15	3.99		
		802.11 a	CH_L	4.62	96.77	0.14	4.76	11.00	Pass
			CH_M	3.04	96.77	0.14	3.18		
			CH_H	3.47	96.68	0.15	3.62		
	40	802.11 ac	CH_L	0.52	93.57	0.29	0.81	11.00	Pass
			CH_H	0.34	93.48	0.29	0.63		
		802.11 n	CH_L	0.88	93.45	0.29	1.17	11.00	Pass
			CH_H	0.98	93.53	0.29	1.27		
	80	802.11 ac	CH_M	-3.14	87.52	0.58	-2.56	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	802.11 ac	CH_L	1.24	96.58	0.15	1.39	30.00	Pass
			CH_M	1.39	96.57	0.15	1.54		
			CH_H	0.27	96.57	0.15	0.42		
		802.11 n	CH_L	1.87	96.55	0.15	2.02	30.00	Pass
			CH_M	2.14	96.55	0.15	2.29		
			CH_H	0.93	96.55	0.15	1.08		
		802.11 a	CH_L	1.84	96.77	0.14	1.98	30.00	Pass
			CH_M	1.72	96.77	0.14	1.86		
			CH_H	0.79	96.77	0.14	0.93		
	40	802.11 ac	CH_L	-1.29	93.48	0.29	-1.00	30.00	Pass
			CH_H	-1.65	93.57	0.29	-1.36		
		802.11 n	CH_L	-1.39	93.53	0.29	-1.10	30.00	Pass
			CH_H	-0.82	93.45	0.29	-0.53		
	80	802.11 ac	CH_M	-4.19	87.67	0.57	-3.62	30.00	Pass

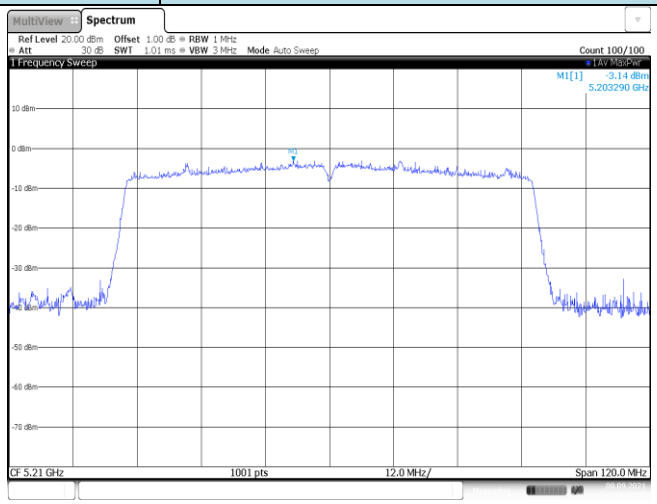
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

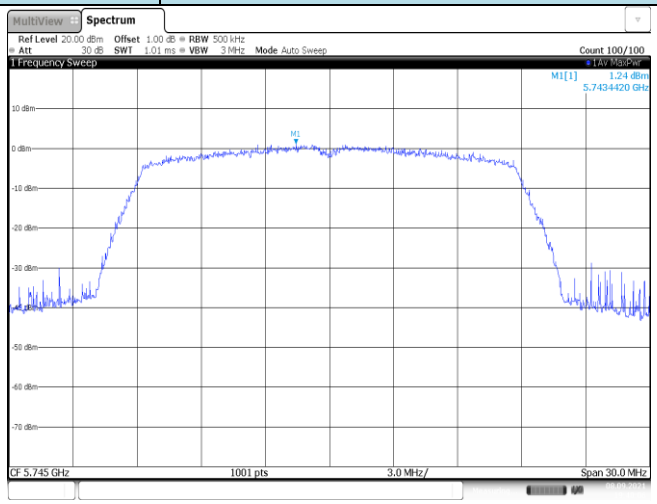
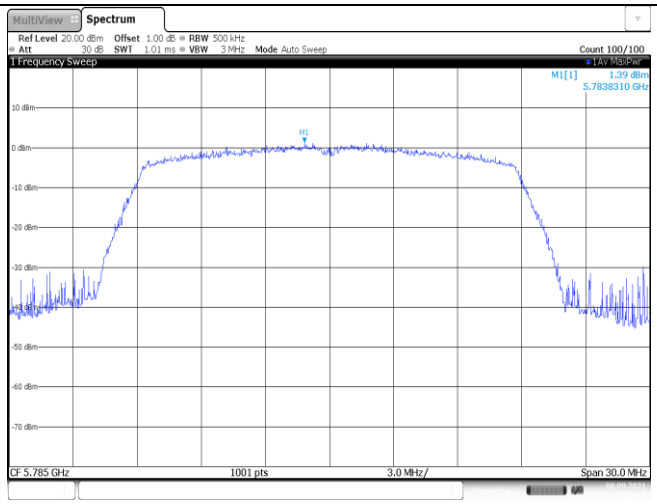
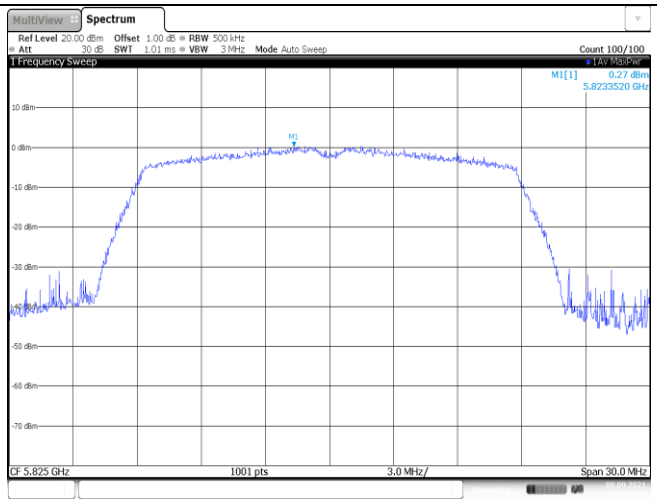
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

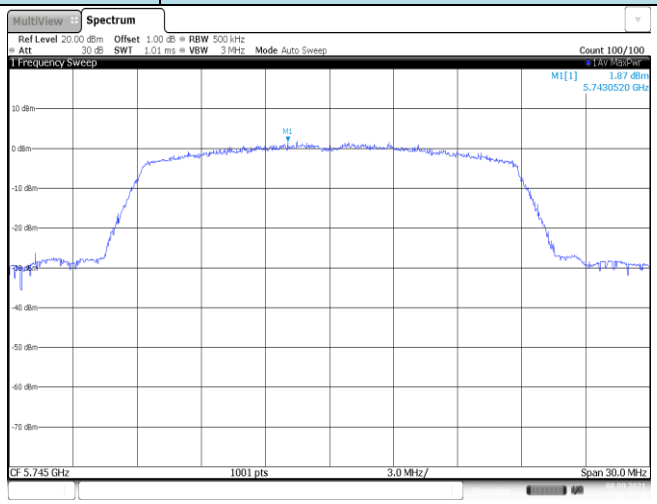
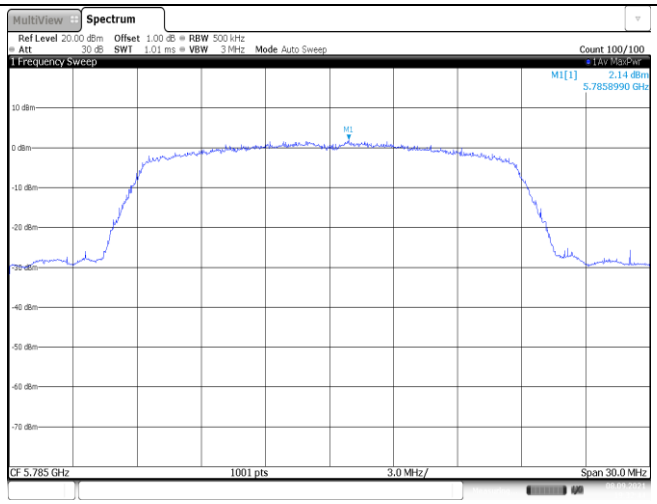
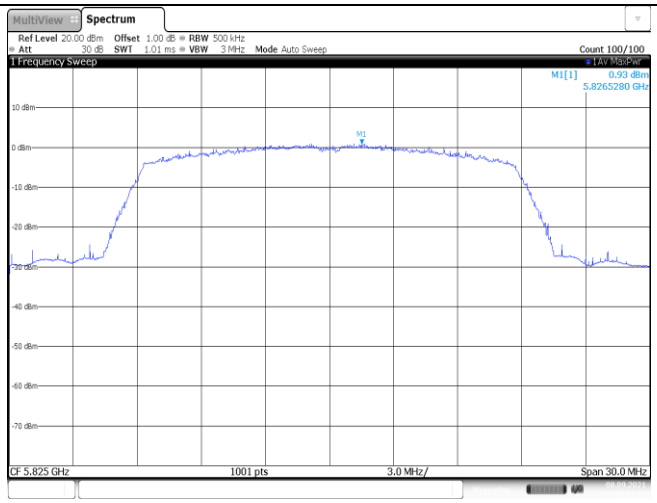
Band I	802.11a
CH_L	
CH_M	
CH_H	

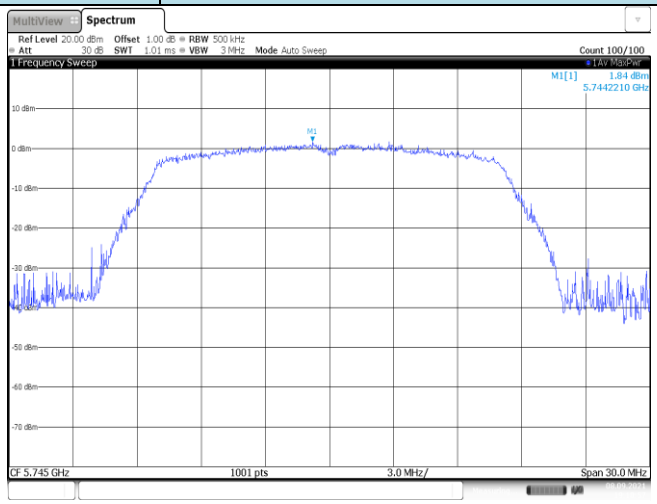
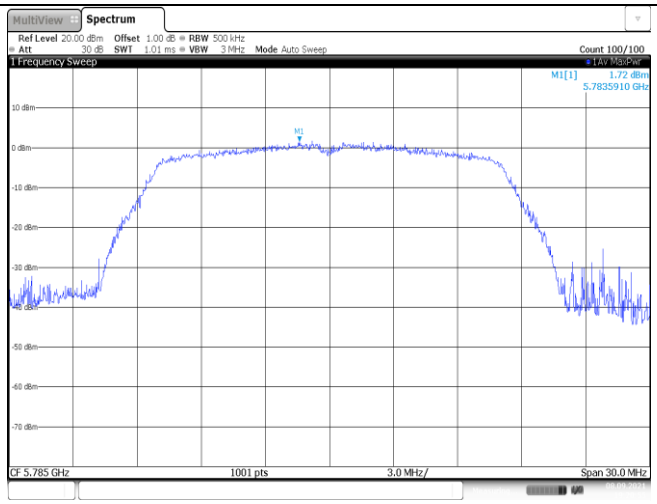
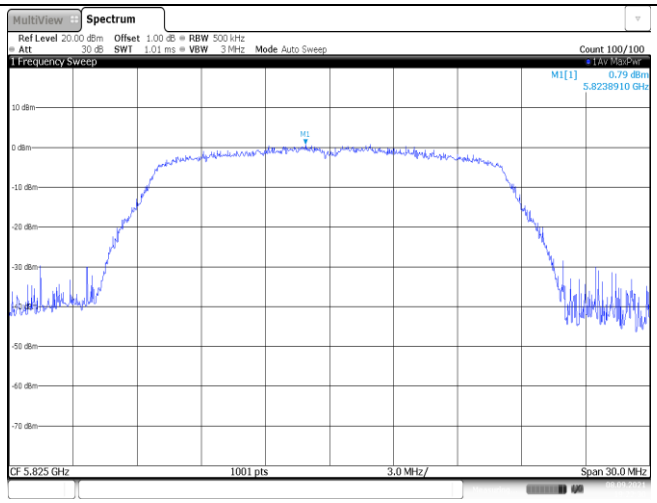
Band I	802.11ac (HT40)
CH_L	
CH_H	

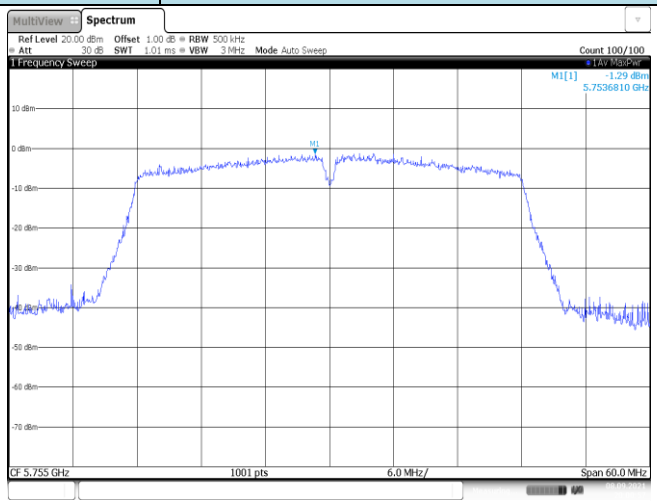
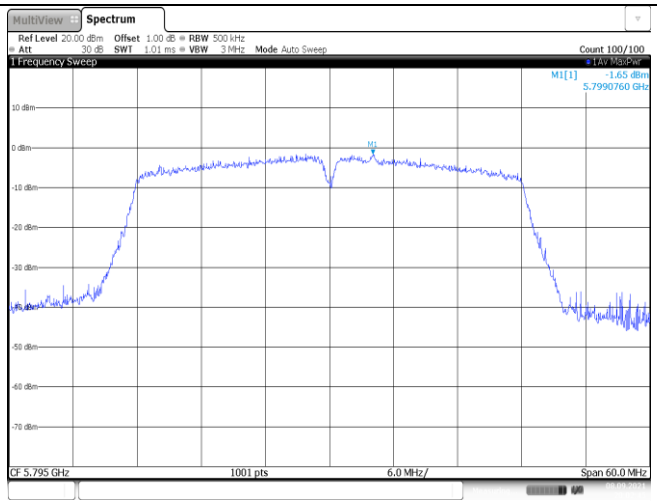
Band I	802.11n (HT40)
CH_L	
CH_H	

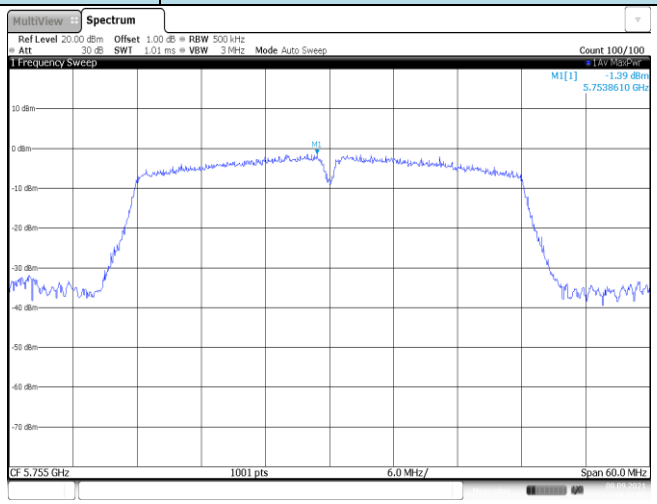
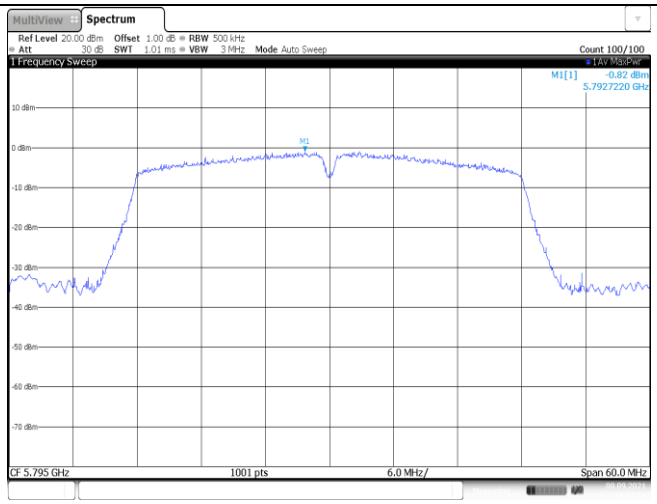
Band I	802.11ac (HT80)
CH_M	

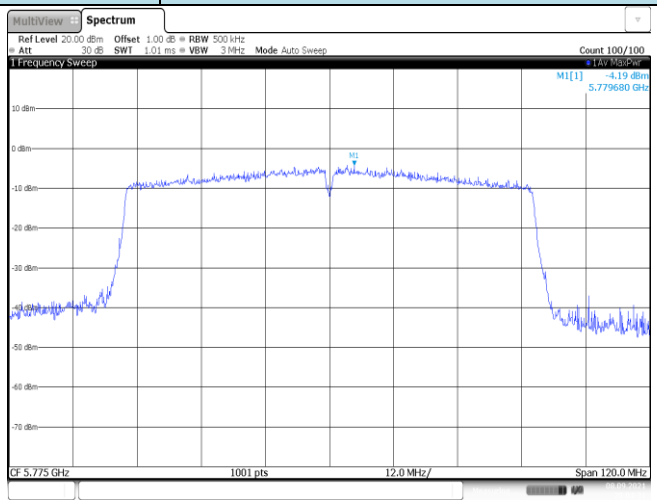
Band IV	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11a
CH_L	
CH_M	
CH_H	

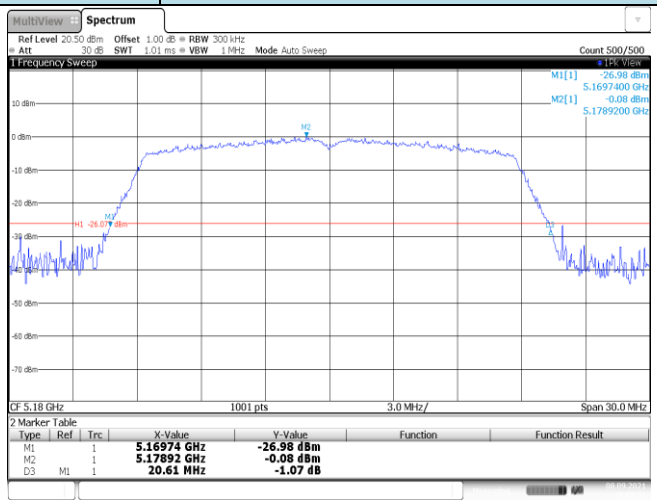
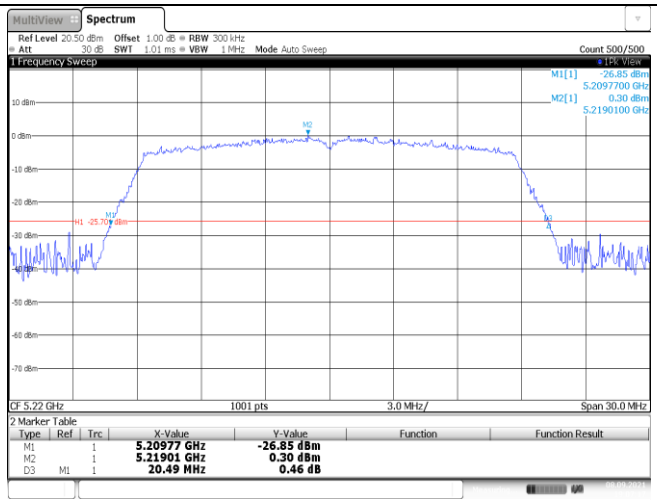
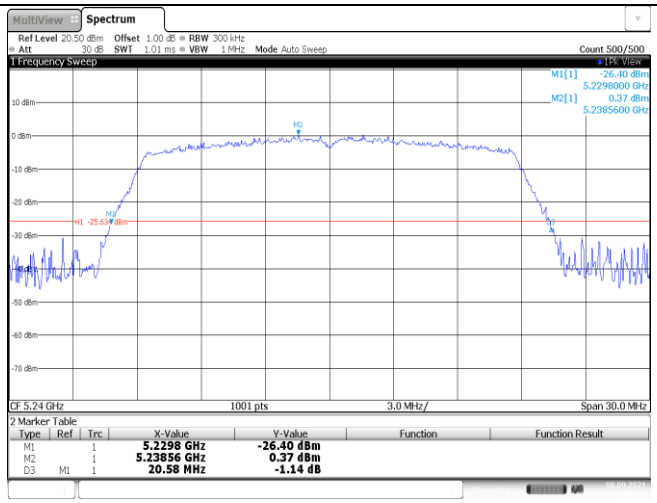
Band IV	802.11ac (HT40)
CH_L	
CH_H	

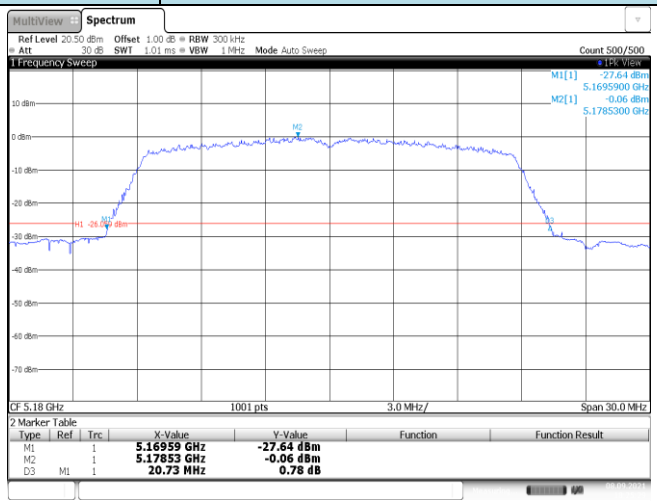
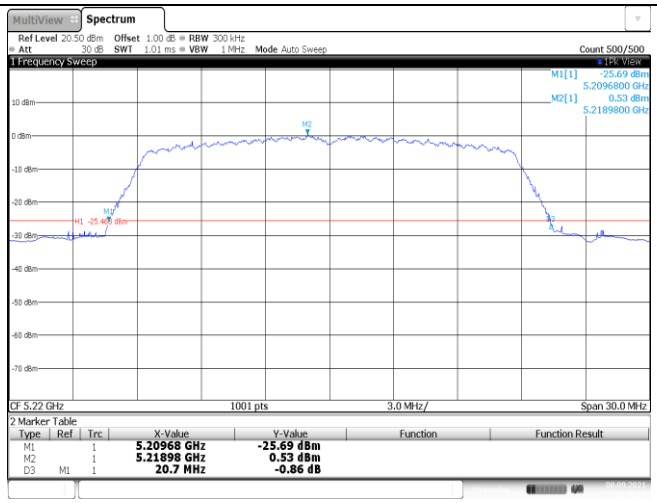
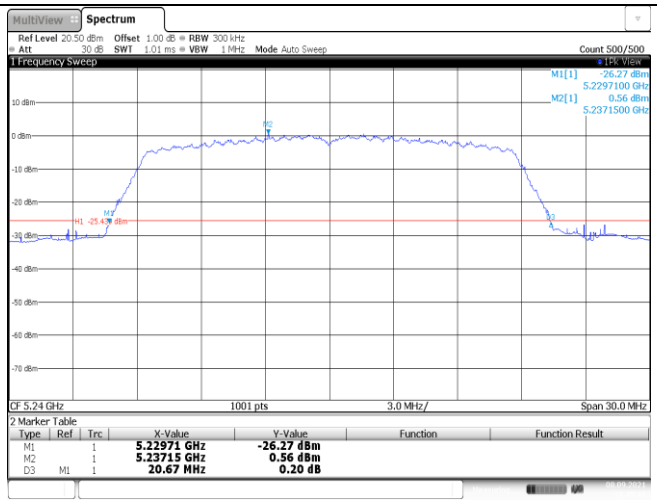
Band IV	802.11n (HT40)
CH_L	
CH_H	

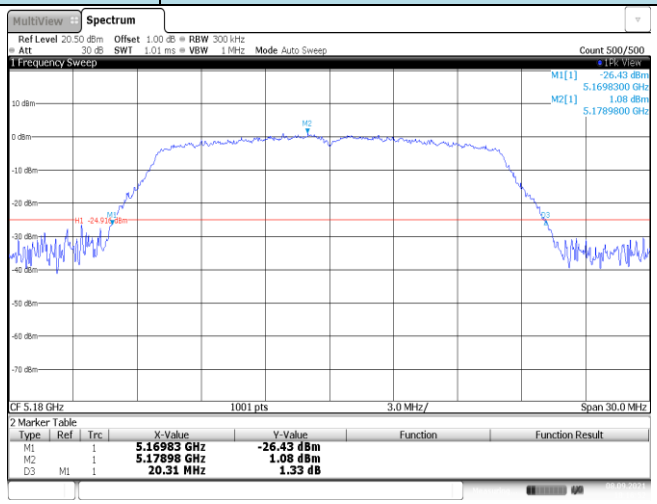
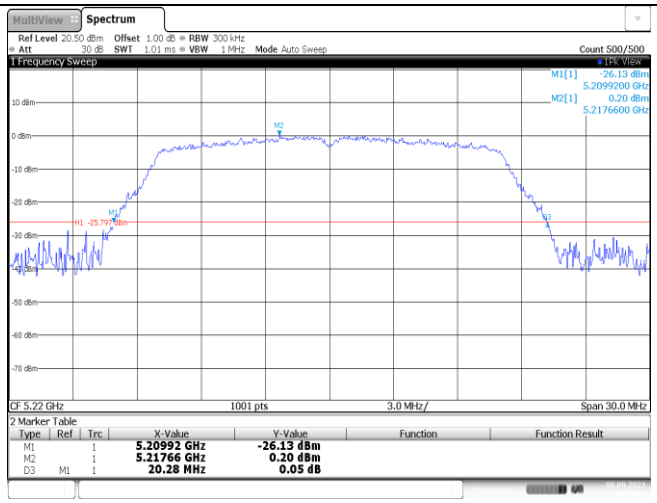
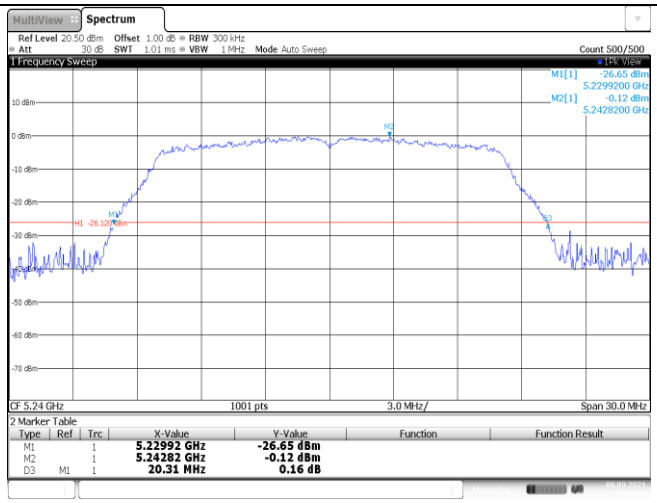
Band IV	802.11ac (HT80)
CH_M	

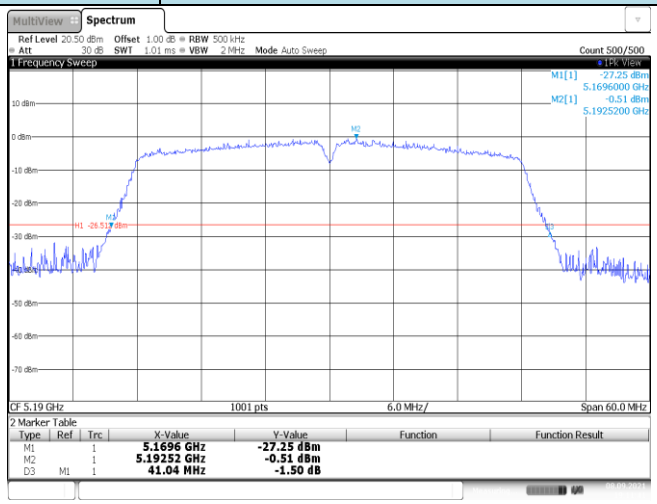
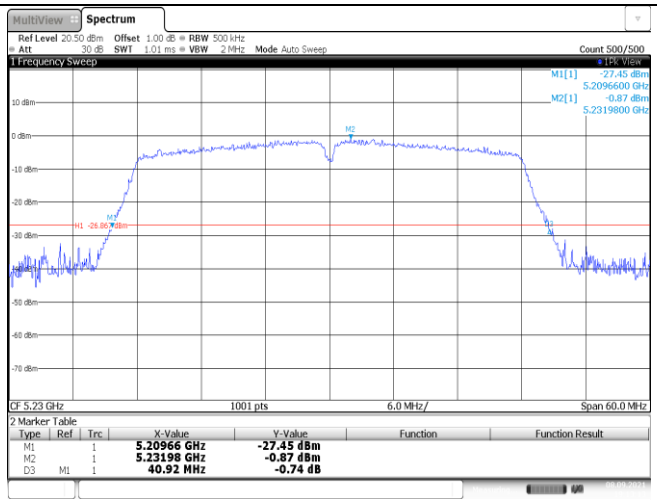
Appendix C：26dB bandwidth

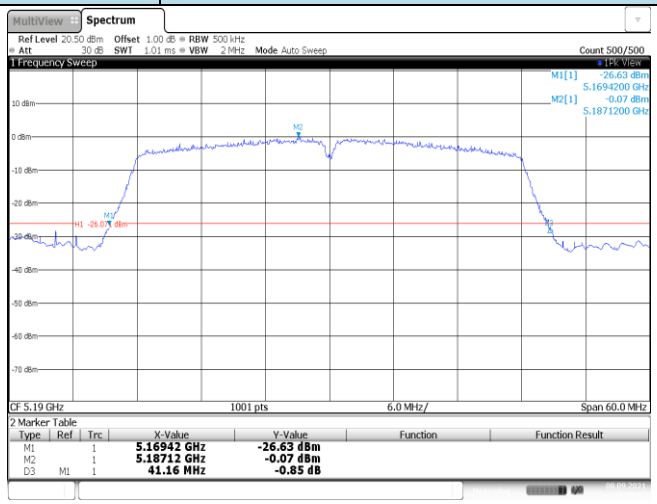
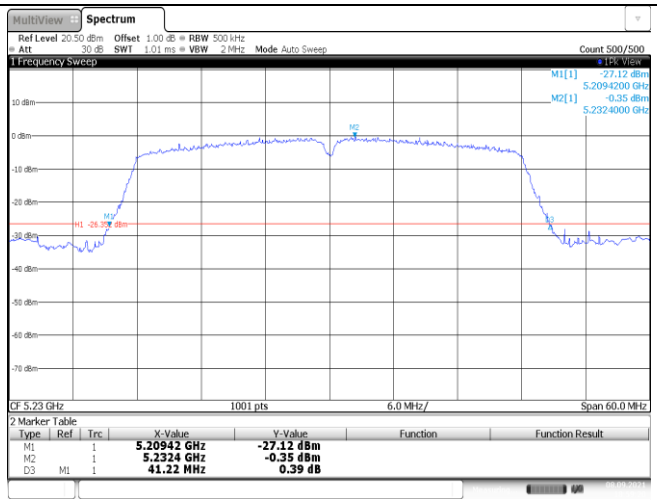
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH_L	20.61	Pass
			CH_M	20.49	
			CH_H	20.58	
		802.11n	CH_L	20.73	Pass
			CH_M	20.70	
			CH_H	20.67	
		802.11a	CH_L	20.31	Pass
			CH_M	20.28	
			CH_H	20.31	
	40	802.11ac	CH_L	41.04	Pass
			CH_H	40.92	
		802.11n	CH_L	41.16	Pass
			CH_H	41.22	
	80	802.11ac	CH_M	81.60	Pass

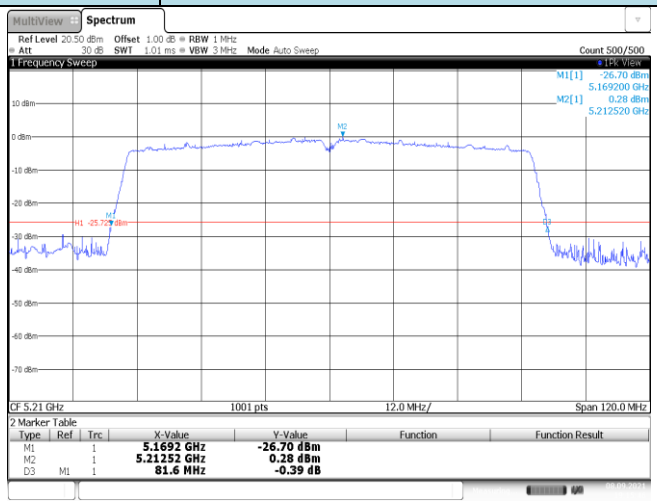
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band I	802.11a
CH_L	
CH_M	
CH_H	

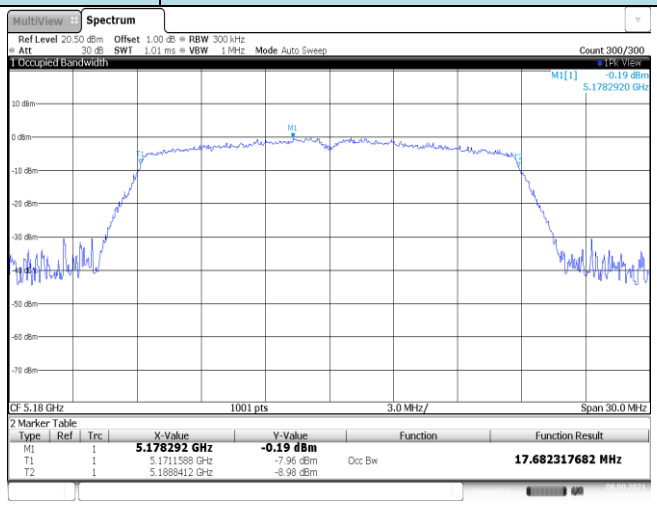
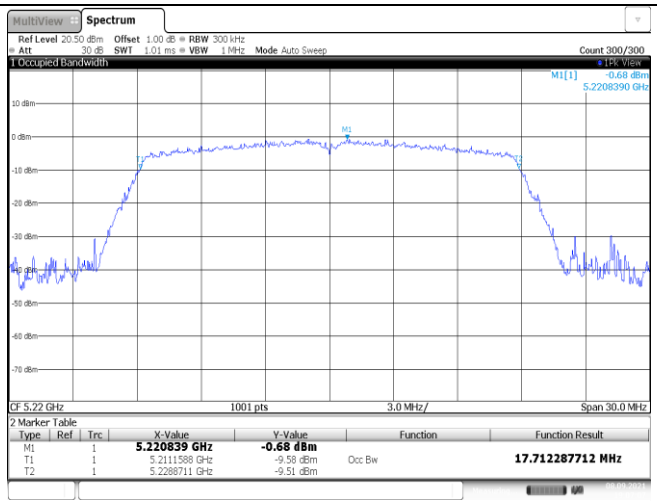
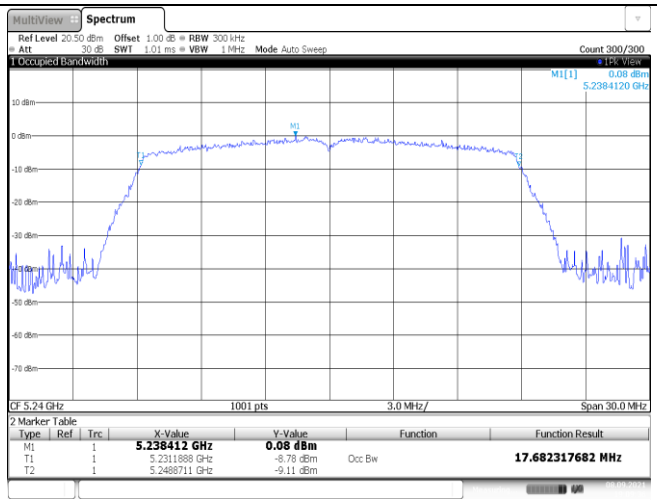
Band I	802.11ac (HT40)
CH_L	
CH_H	

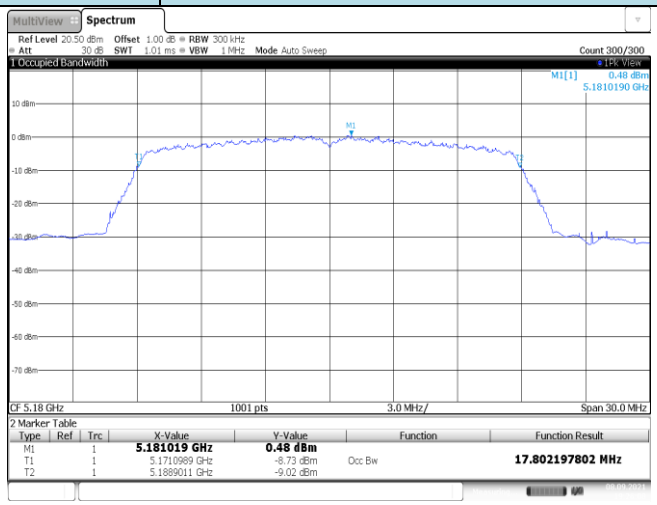
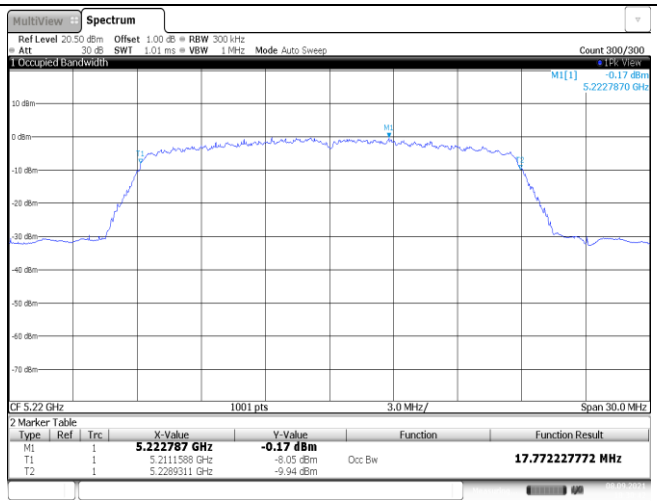
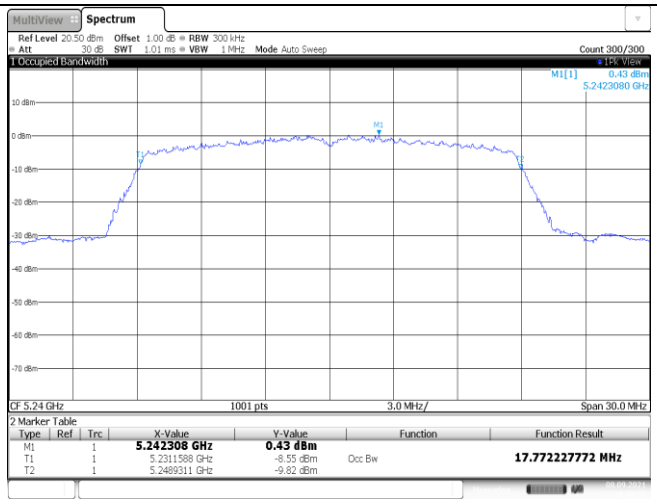
Band I	802.11n (HT40)
CH_L	
CH_H	

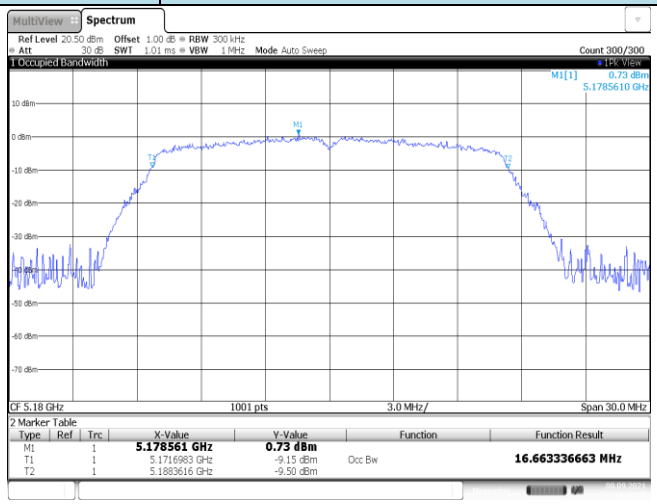
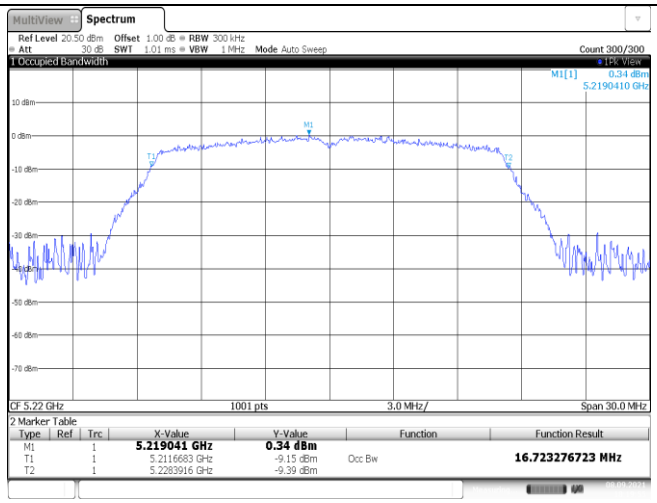
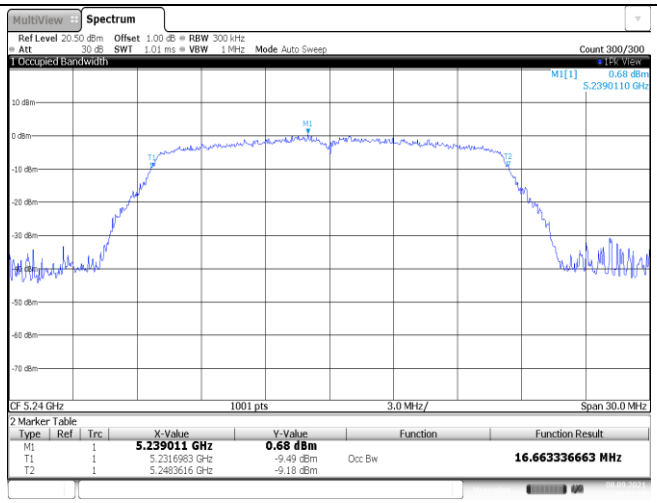
Band I	802.11ac (HT80)
CH_M	

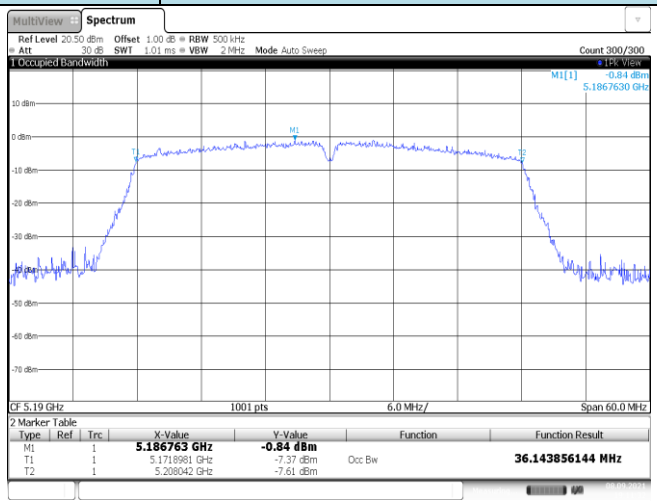
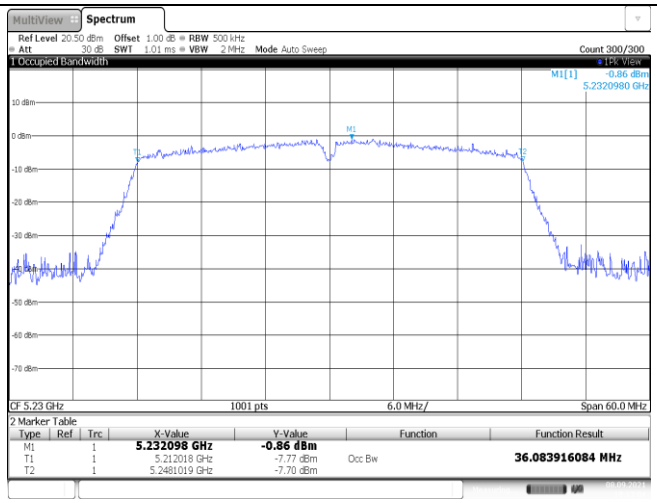
Appendix D：99% Occupy bandwidth

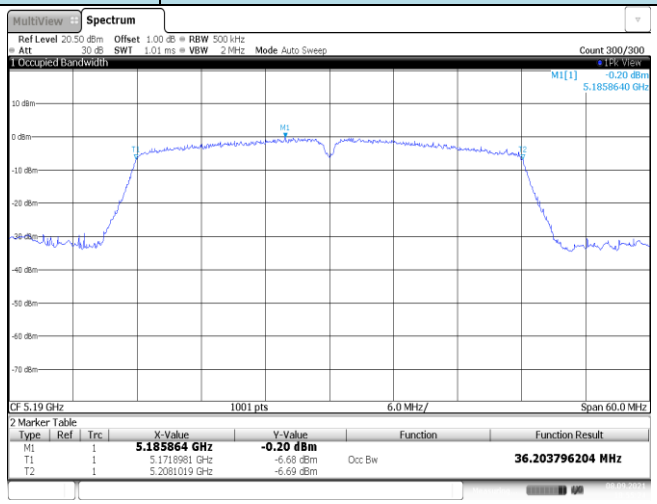
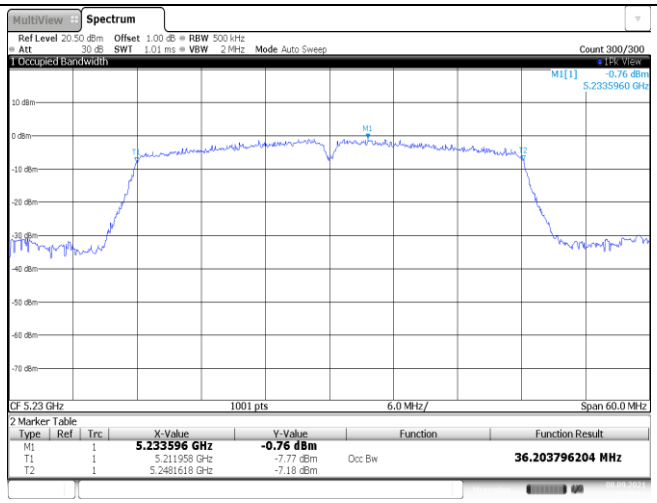
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwith (MHz)	Result
I	20	802.11ac	CH_L	17.68	Pass
			CH_M	17.71	
			CH_H	17.68	
		802.11n	CH_L	17.80	Pass
			CH_M	17.77	
			CH_H	17.77	
		802.11a	CH_L	16.66	Pass
			CH_M	16.72	
			CH_H	16.66	
	40	802.11ac	CH_L	36.14	Pass
			CH_H	36.08	
		802.11n	CH_L	36.20	Pass
			CH_H	36.20	
	80	802.11ac	CH_M	75.29	Pass
IV	20	802.11ac	CH_L	17.68	Pass
			CH_M	17.68	
			CH_H	17.68	
		802.11n	CH_L	17.77	Pass
			CH_M	17.71	
			CH_H	17.80	
		802.11a	CH_L	16.66	Pass
			CH_M	16.66	
			CH_H	16.66	
	40	802.11ac	CH_L	36.08	Pass
			CH_H	36.08	
		802.11n	CH_L	36.12	Pass
			CH_H	36.12	
	80	802.11ac	CH_M	75.17	Pass

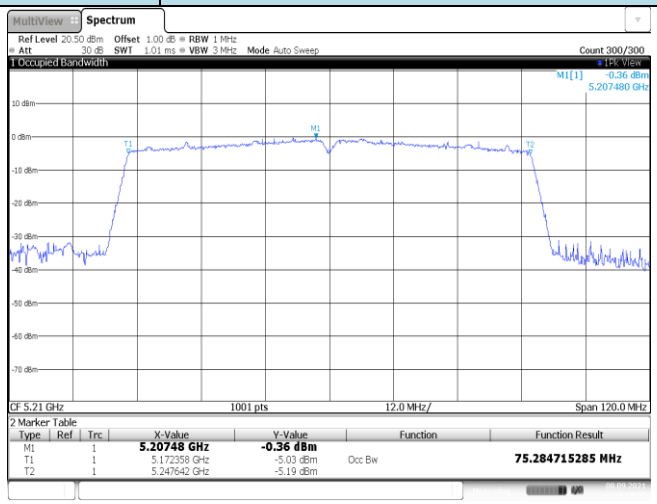
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

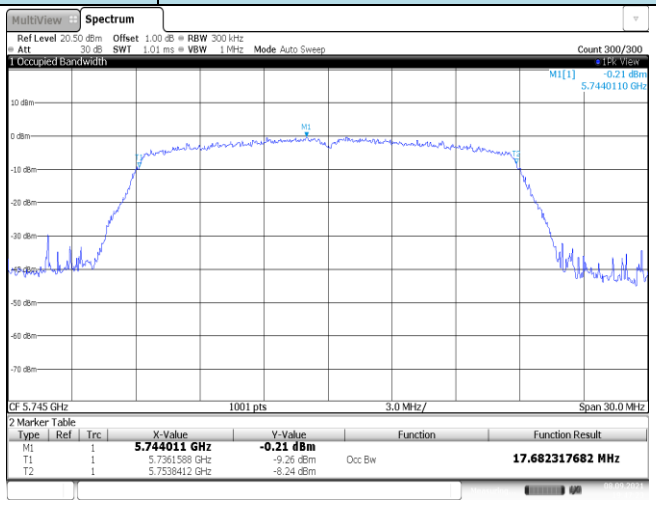
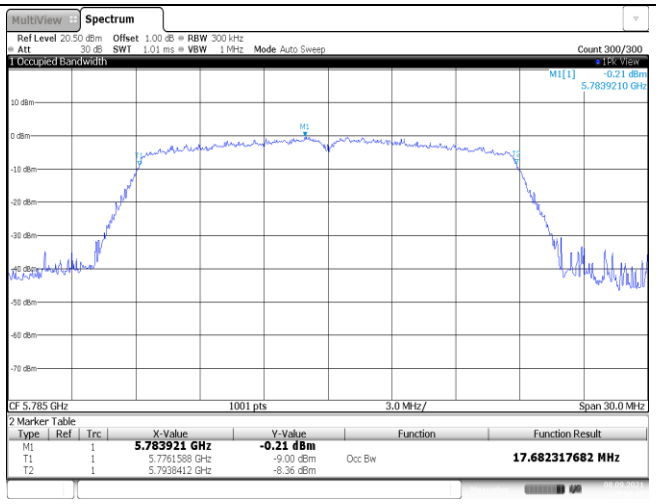
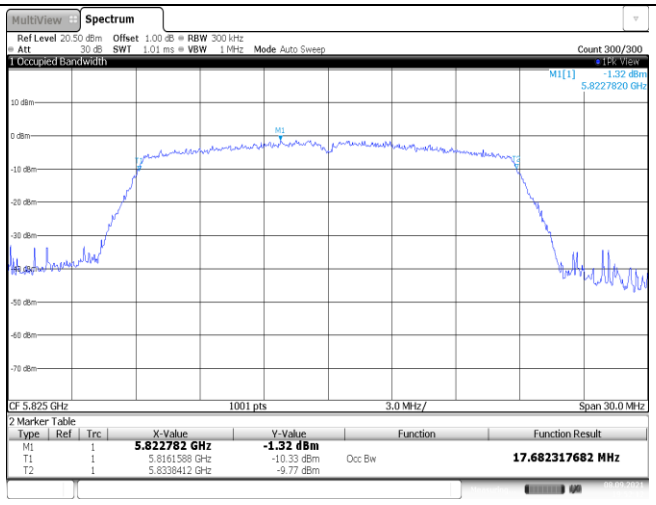
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

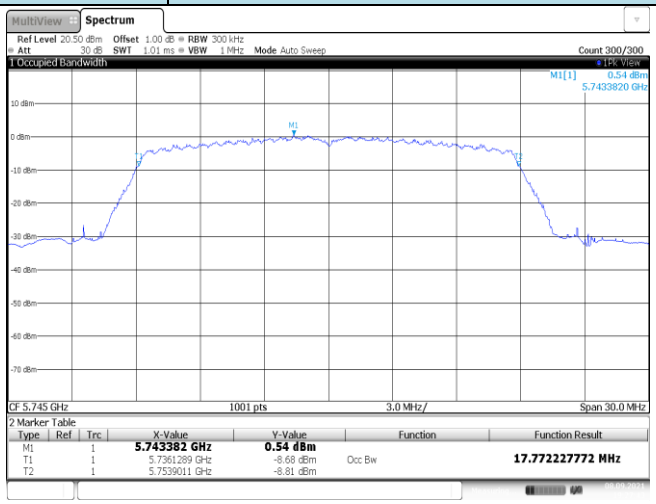
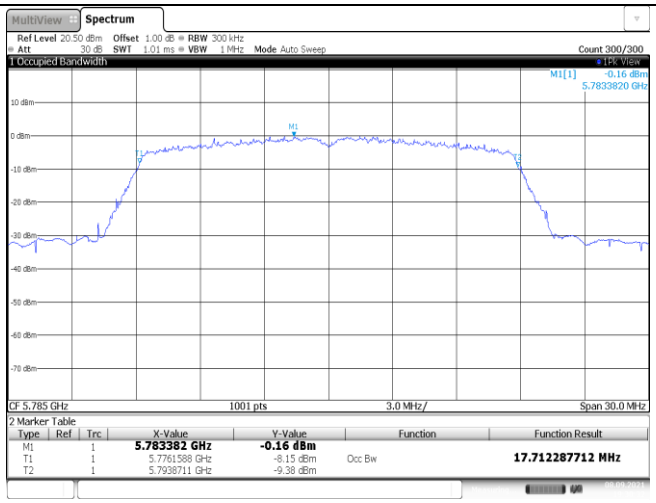
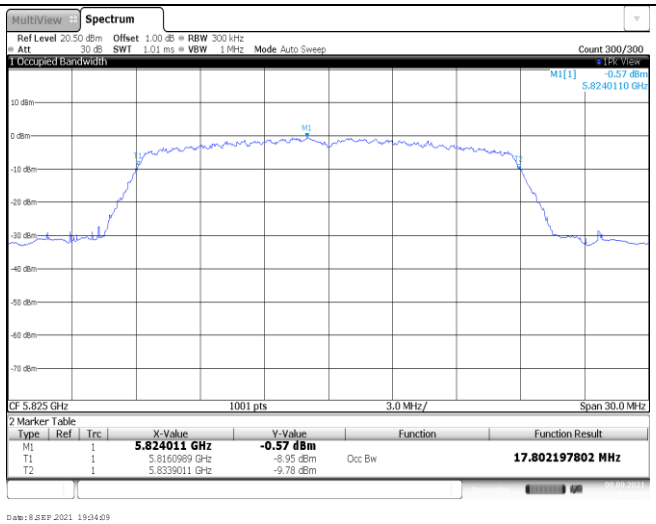
Band I	802.11a
CH_L	
CH_M	
CH_H	

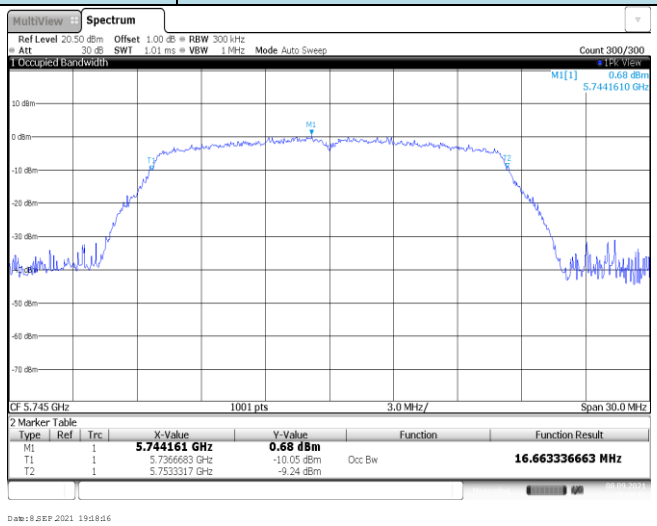
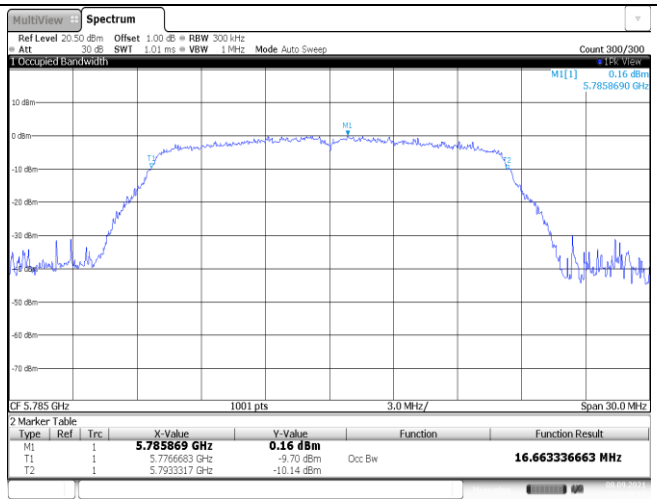
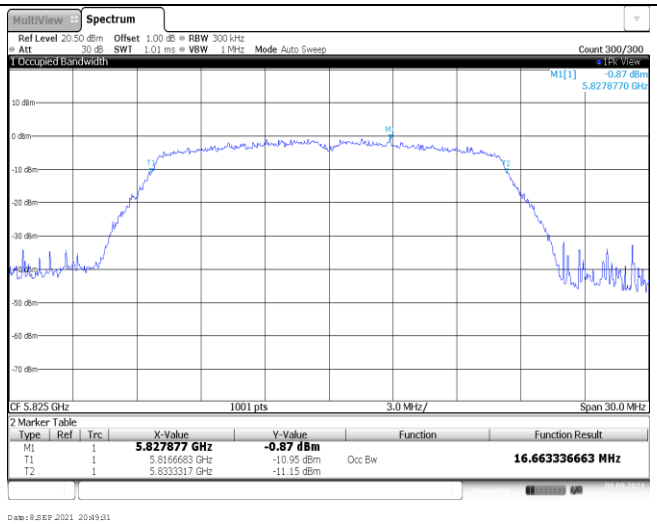
Band I	802.11ac (HT40)
CH_L	
CH_H	

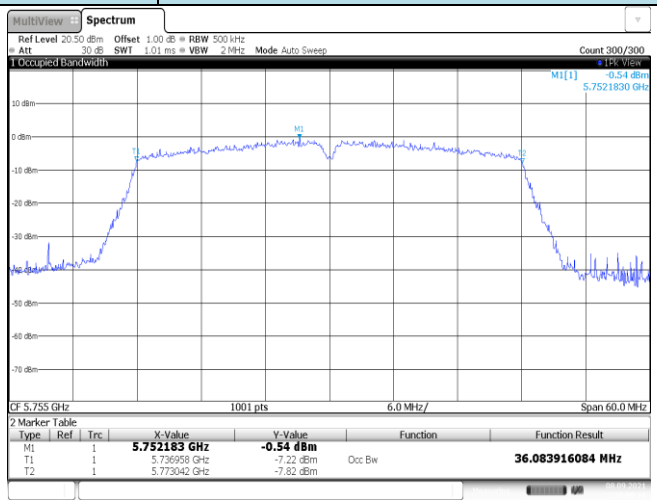
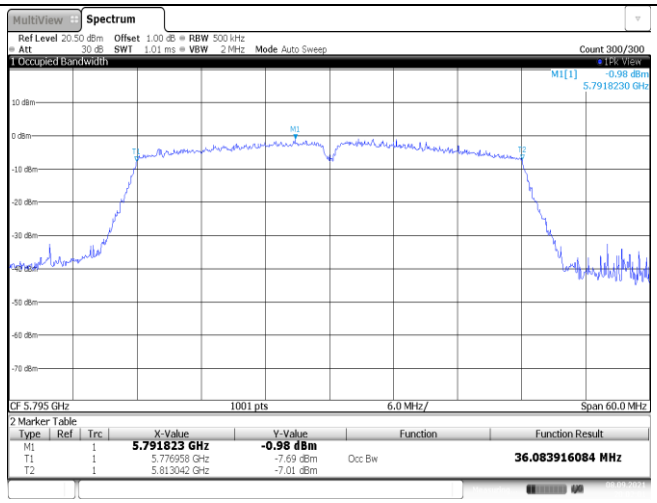
Band I	802.11n (HT40)
CH_L	
CH_H	

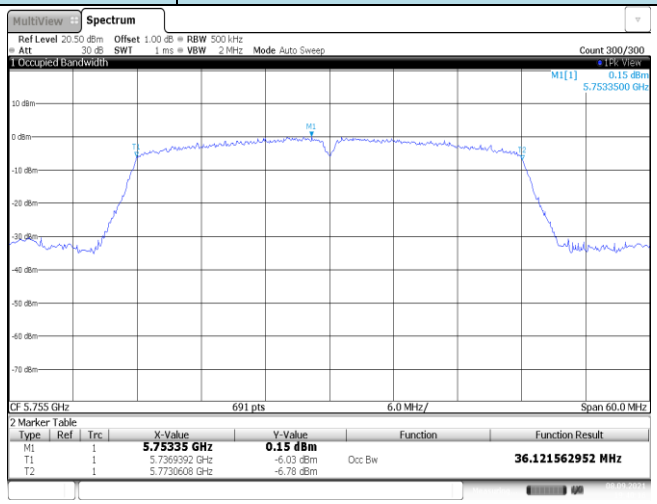
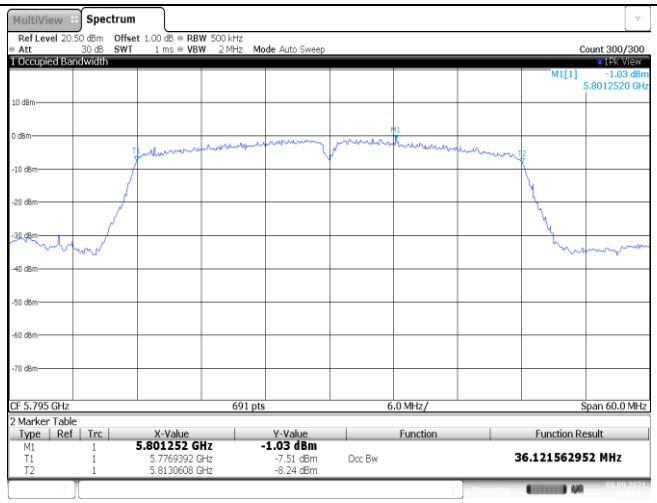
Band I	802.11ac (HT80)
CH_M	

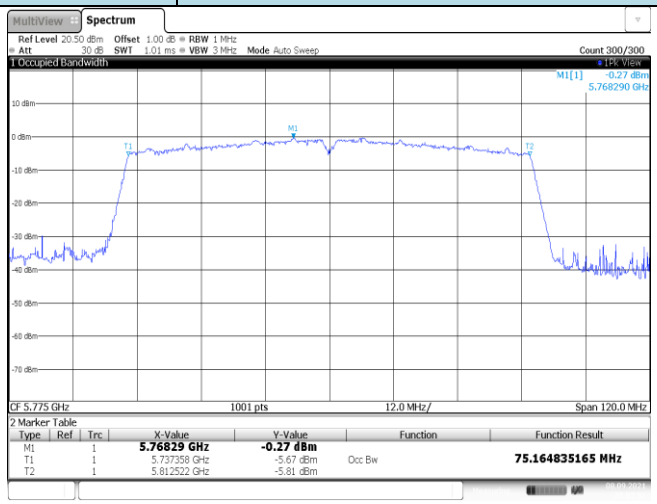
Band IV	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band IV	802.11a
CH_L	
CH_M	
CH_H	

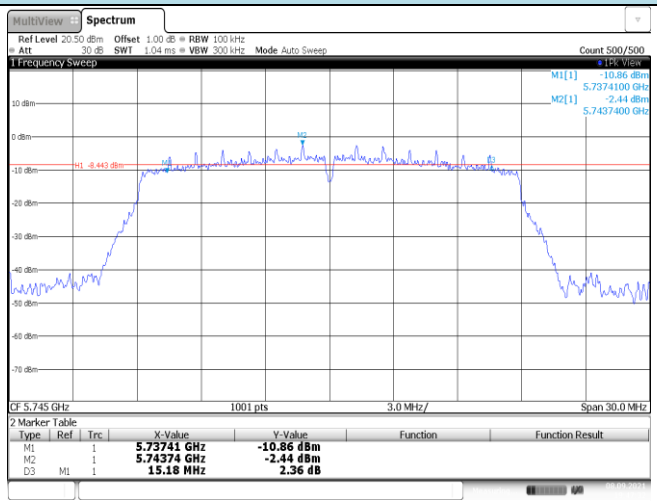
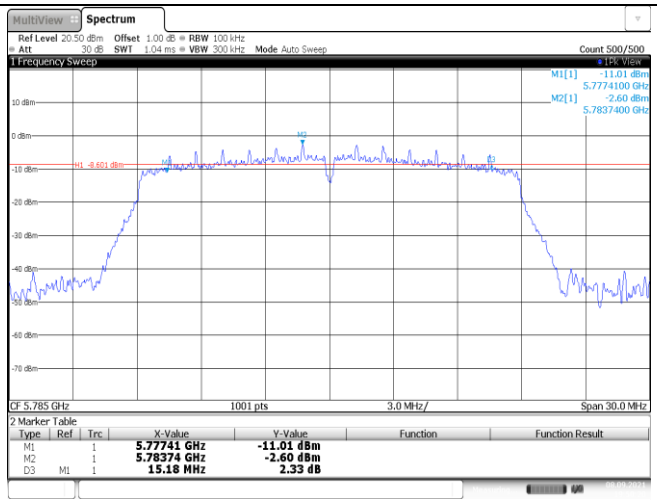
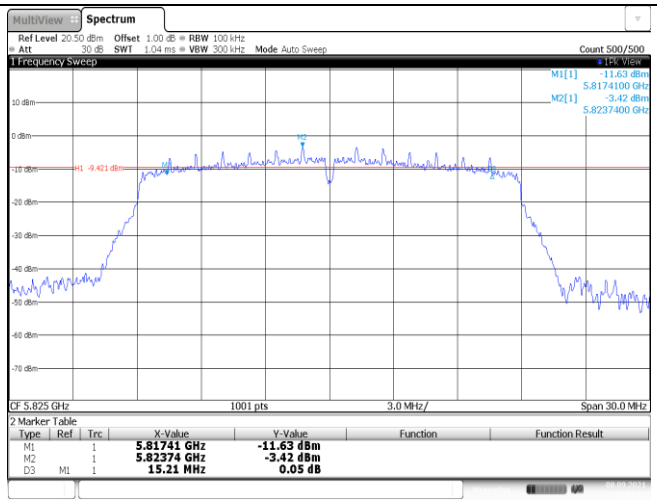
Band IV	802.11ac (HT40)
CH_L	
CH_H	

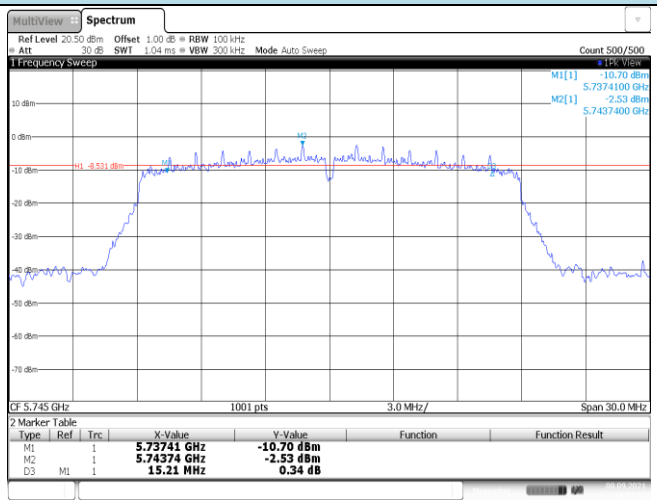
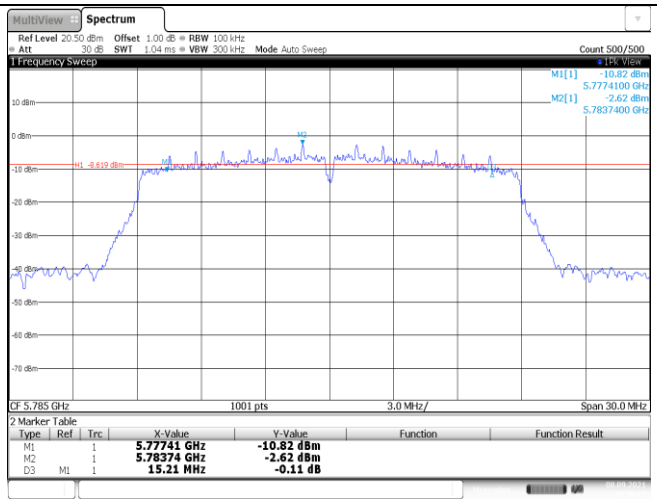
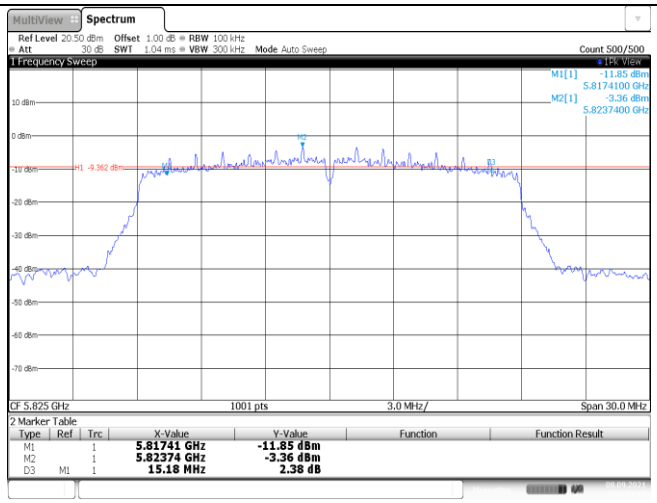
Band IV	802.11n (HT40)
CH_L	
CH_H	

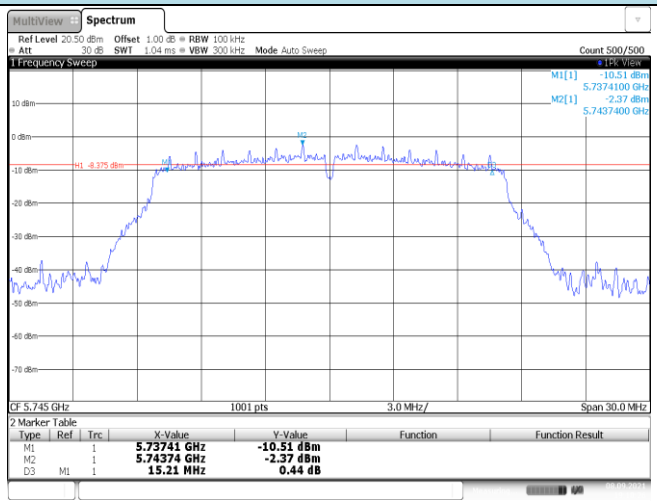
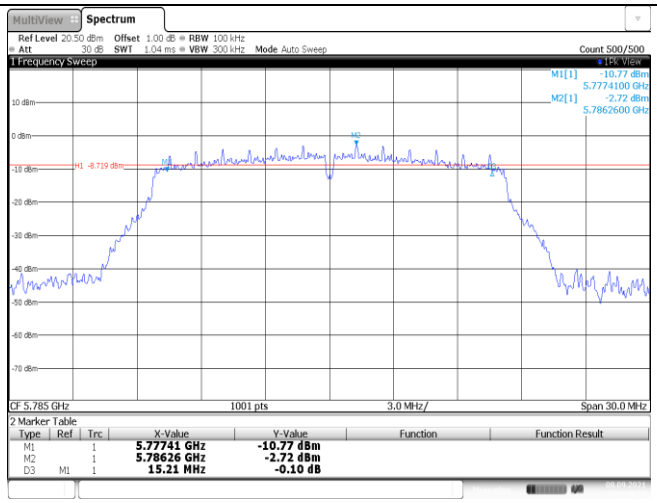
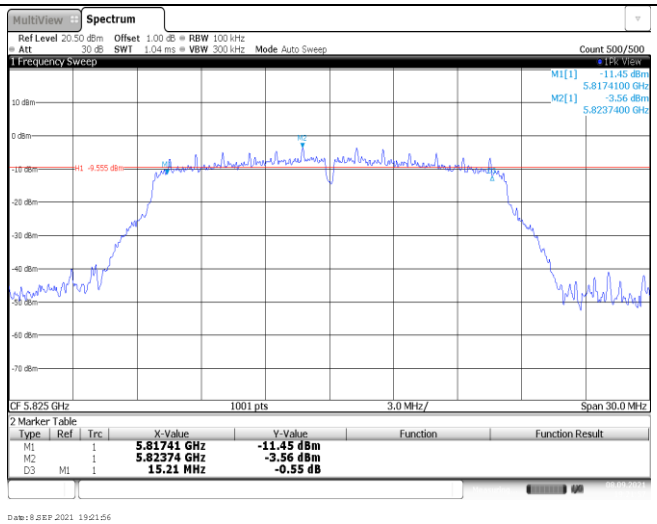
Band IV	802.11ac (HT80)
CH_M	

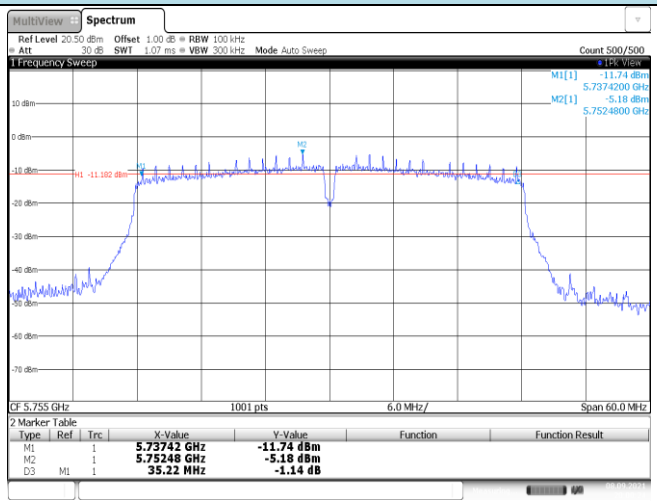
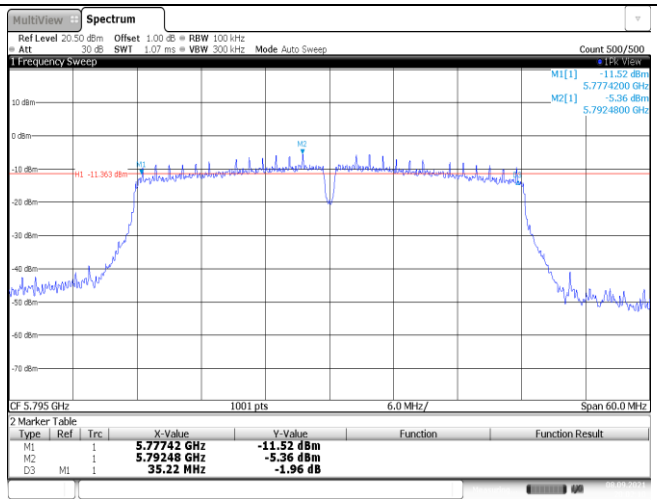
Appendix E：6dB Bandwidth

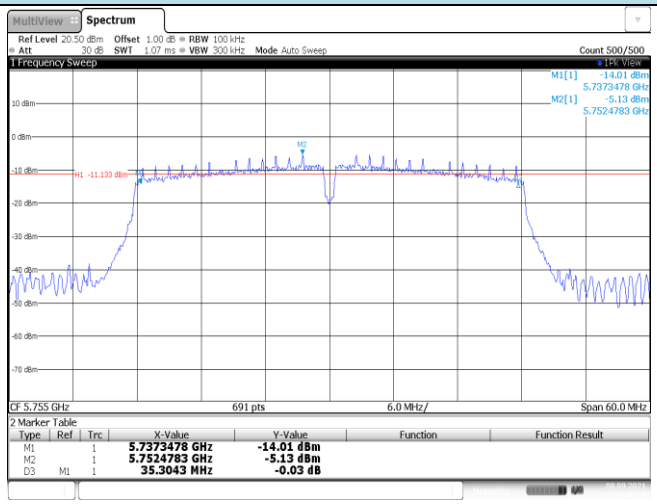
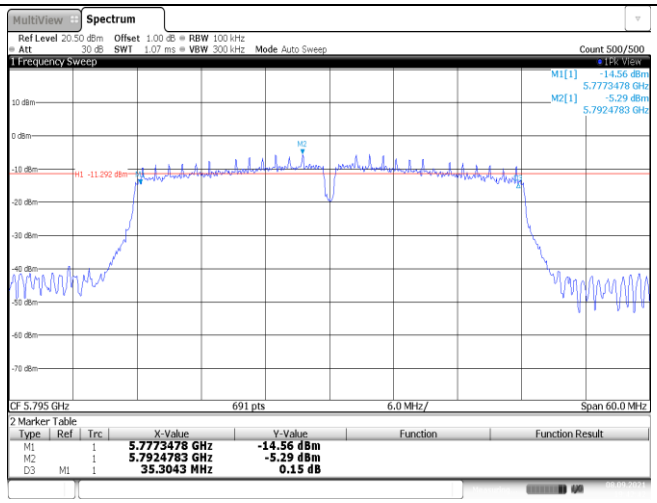
Band	Bandwidth (MHz)	Type	Channel	6dB bandwith (MHz)	Result
IV	20	802.11ac	CH_L	15.18	Pass
			CH_M	15.18	
			CH_H	15.21	
		802.11n	CH_L	15.21	Pass
			CH_M	15.21	
			CH_H	15.18	
		802.11a	CH_L	15.21	Pass
			CH_M	15.21	
			CH_H	15.21	
	40	802.11ac	CH_L	35.22	Pass
			CH_H	35.22	
		802.11n	CH_L	35.30	Pass
			CH_H	35.30	
	80	802.11ac	CH_M	75.36	Pass

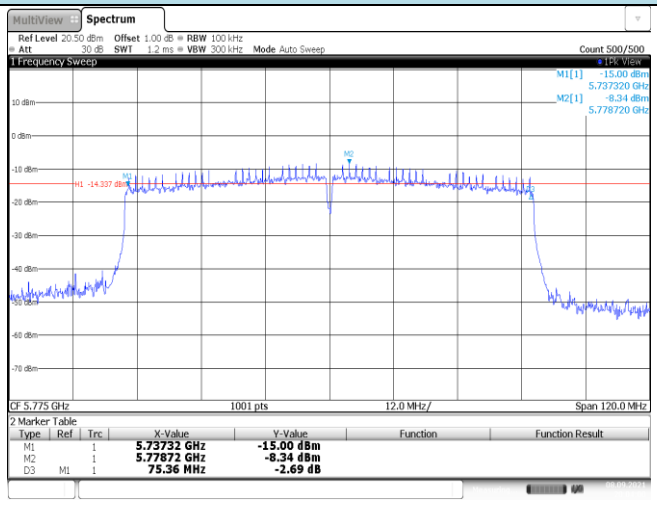
Test channel	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Test channel	802.11n (HT20)
CH_L	
CH_M	
CH_H	

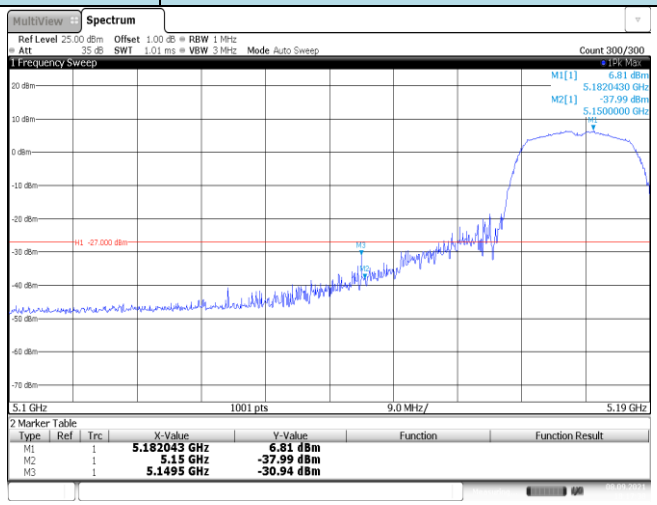
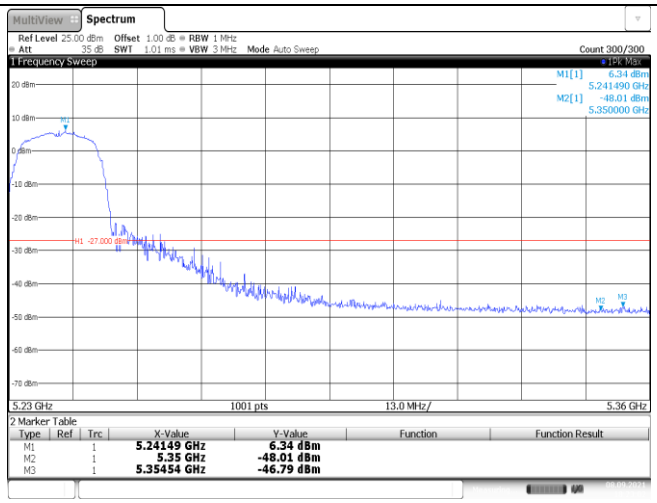
Test channel	802.11a
CH_L	
CH_M	
CH_H	

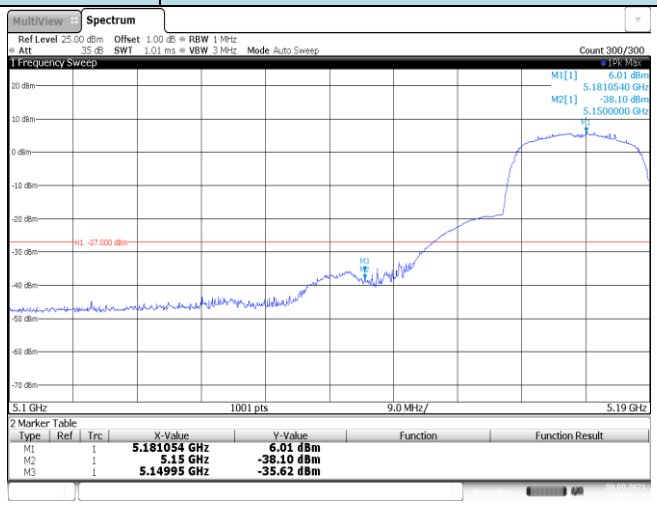
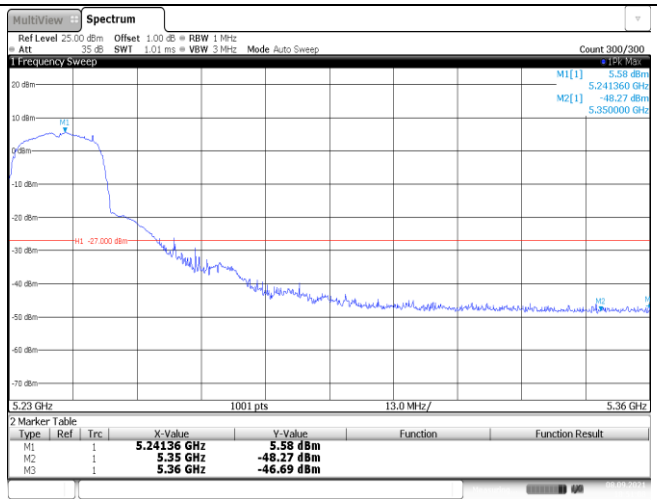
Test channel	802.11ac (HT40)
CH_L	
CH_H	

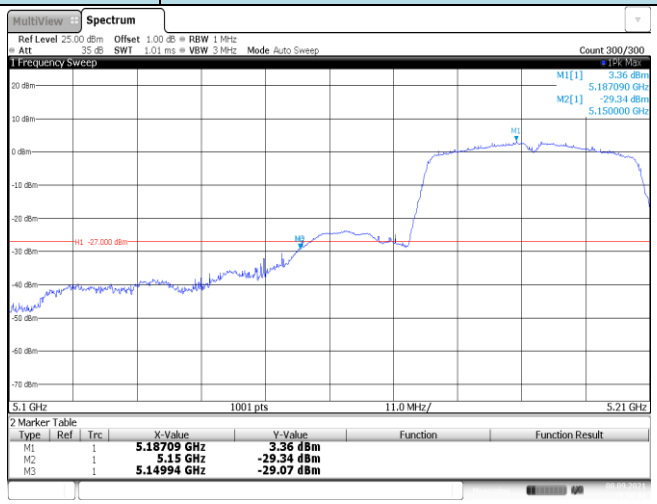
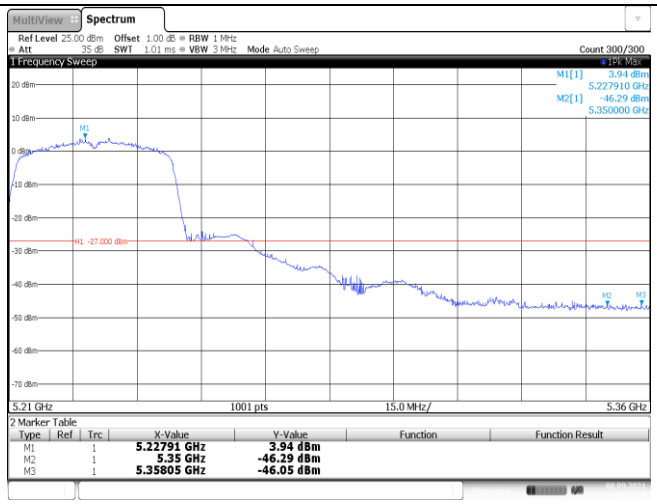
Test channel	802.11n (HT40)
CH_L	
CH_H	

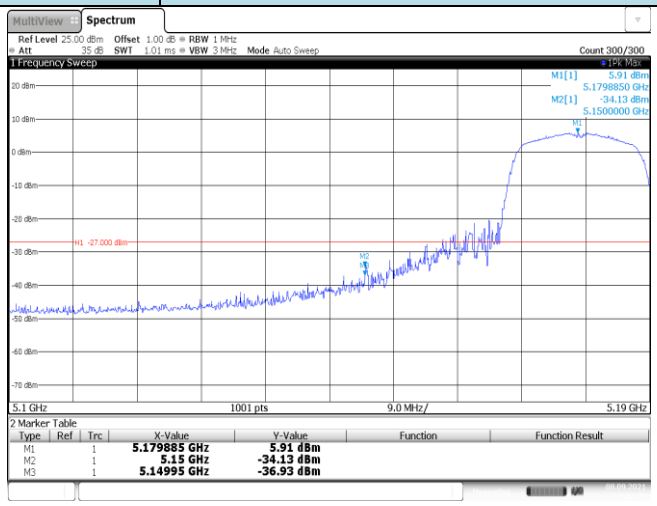
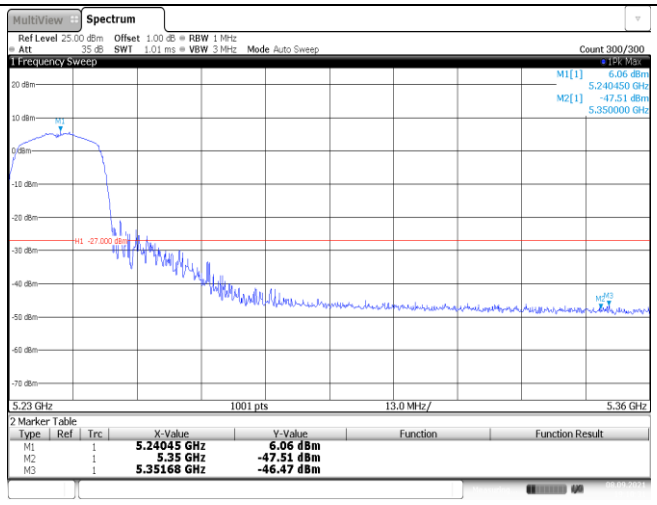
Test channel	802.11ac (HT80)
CH_M	

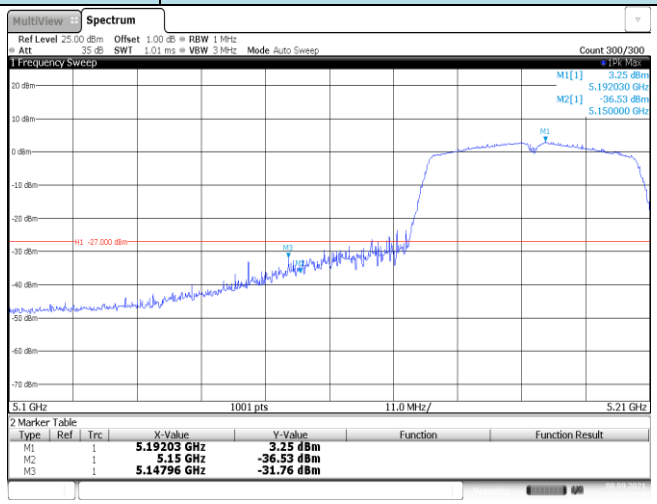
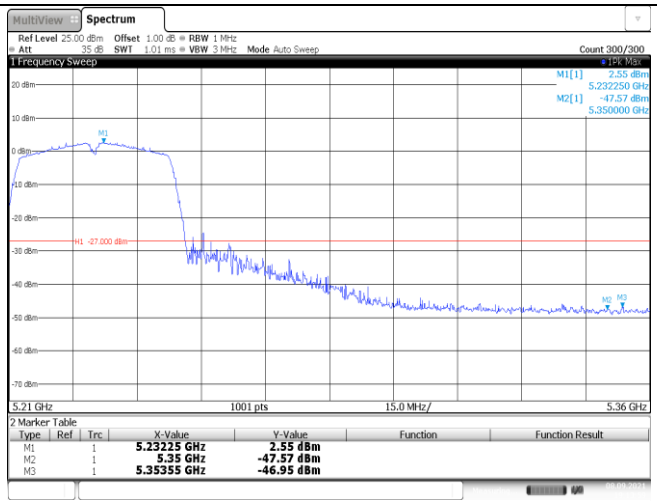
Appendix F：Band edge

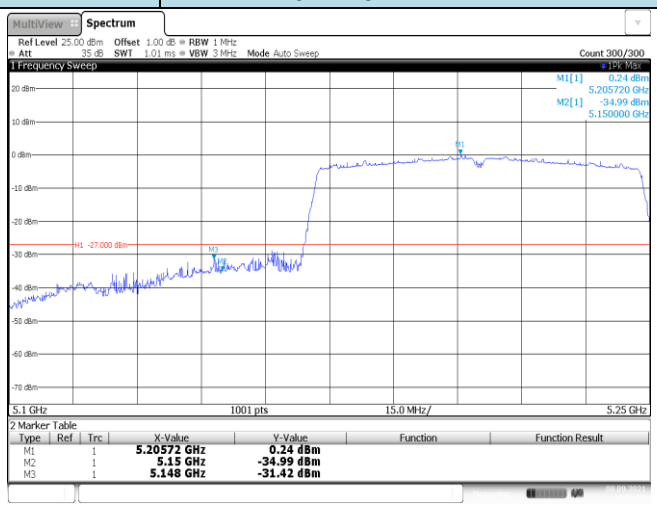
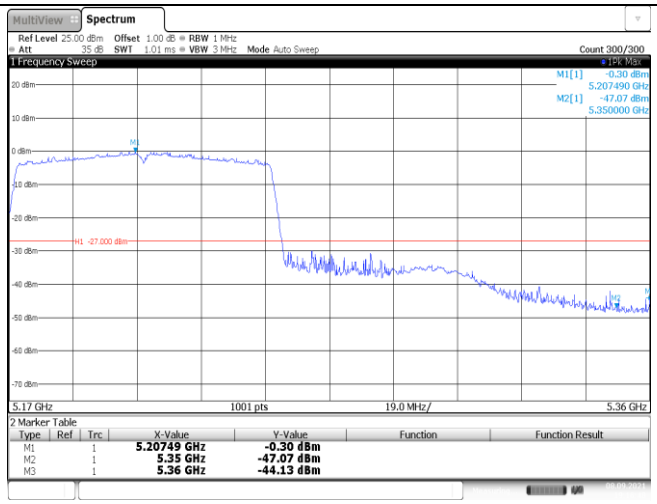
Band I	802.11a
CH_L	
CH_H	

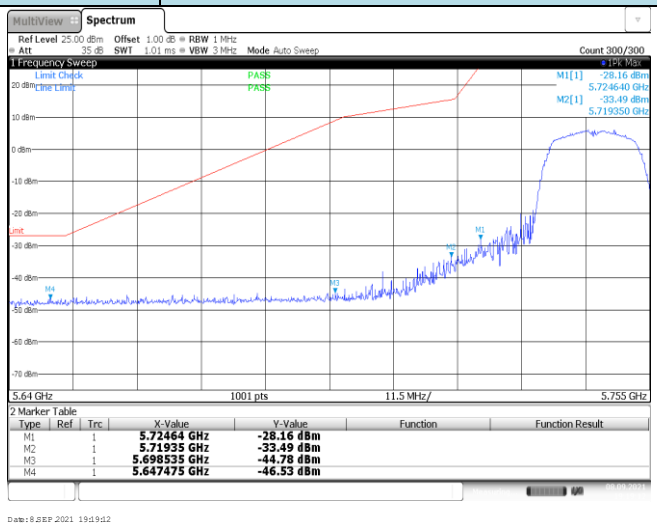
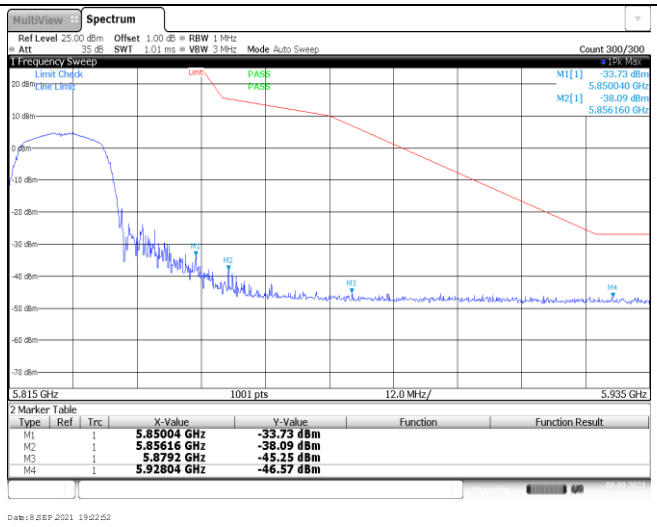
Band I	802.11n (HT20)
CH_L	
CH_H	

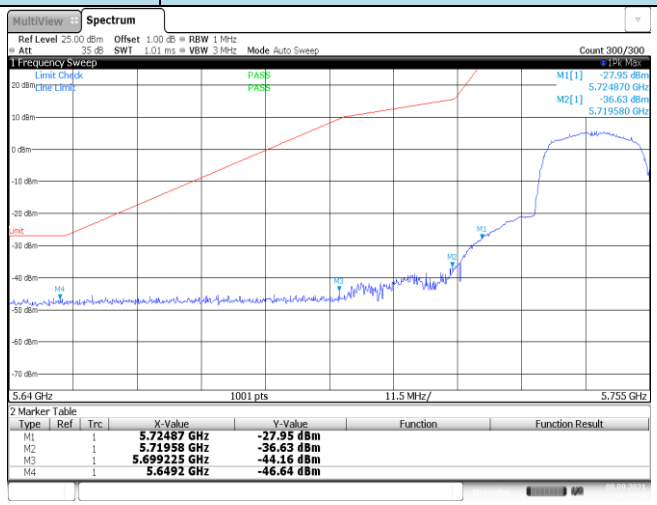
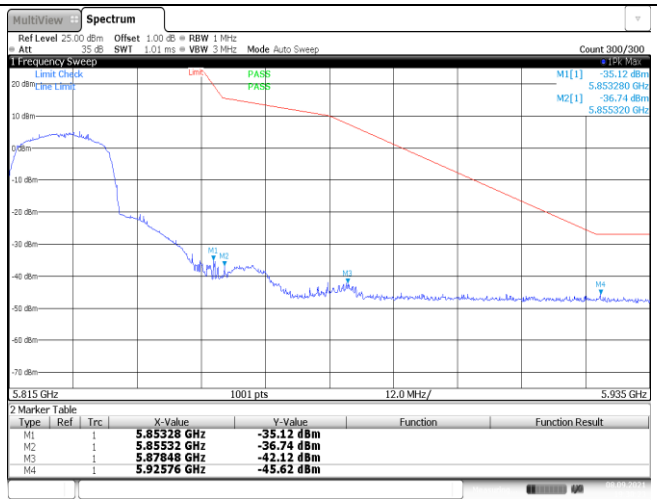
Band I	802.11 n(HT40)
CH_L	
CH_H	

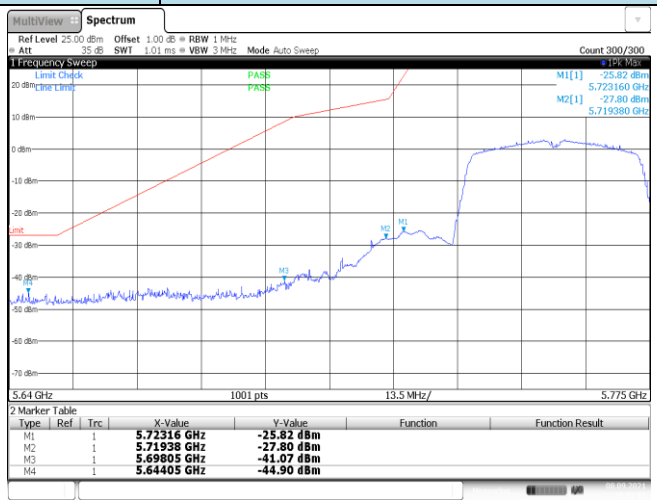
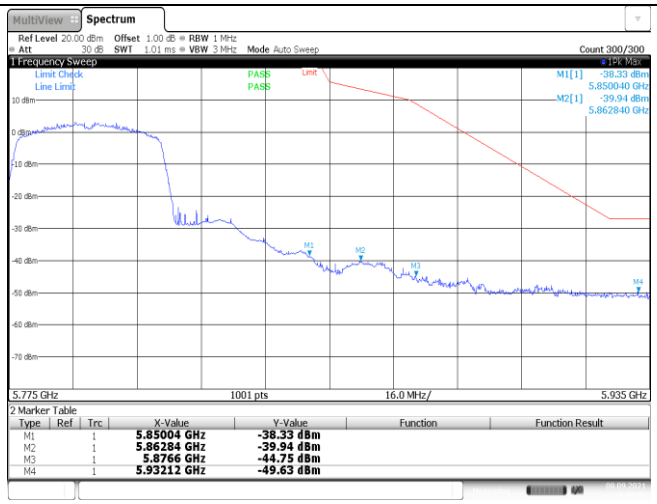
Band I	802.11ac (HT20)
CH_L	
CH_H	

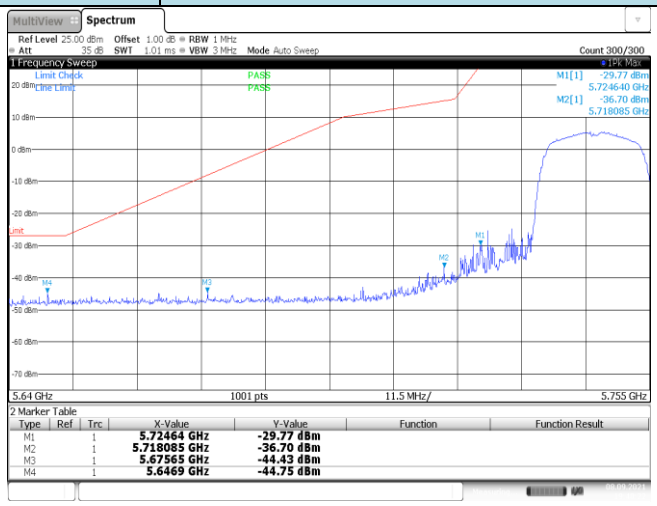
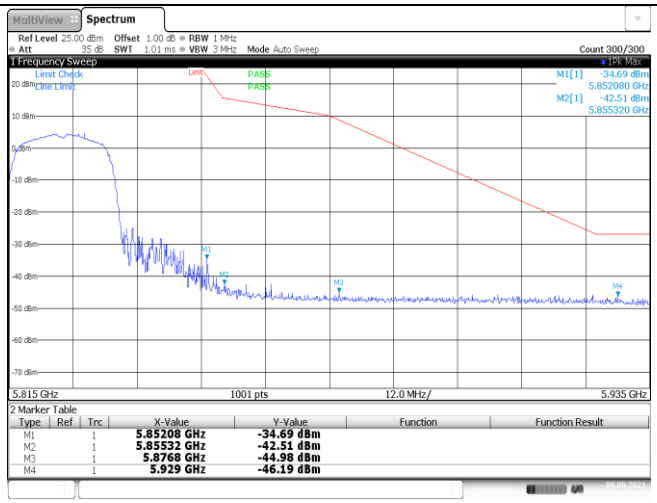
Band I	802.11 ac(HT40)
CH_L	
CH_H	

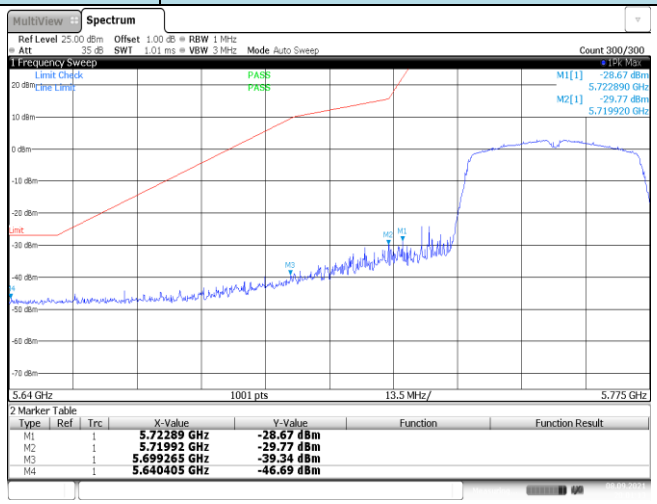
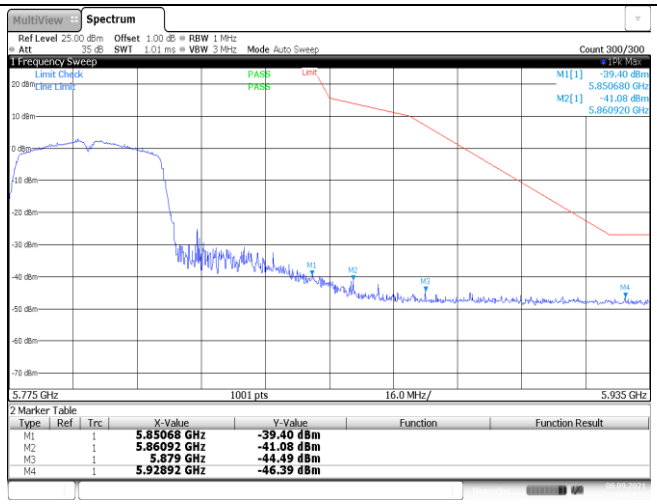
Band I	802.11 ac(HT80)
CH_L	
CH_H	

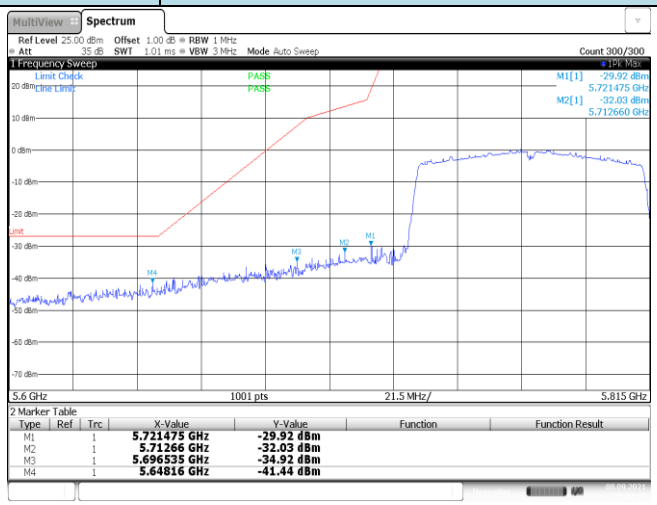
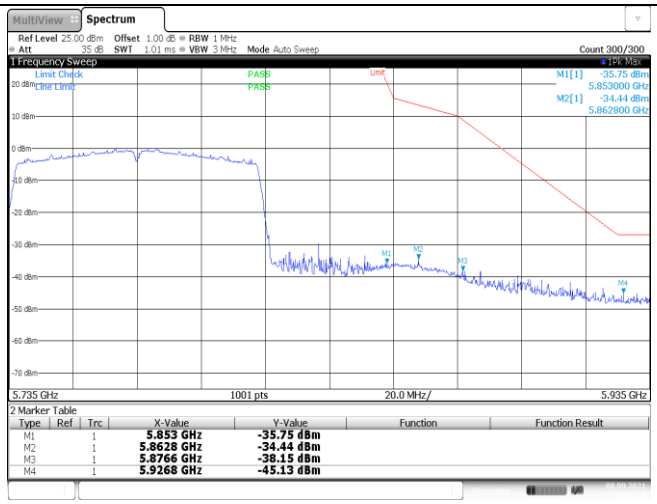
Band IV	802.11a
CH_L	
CH_H	

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	
CH_H	

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	15000.00	2.89575	PASS
T_N	V_N	15000.00	2.89575	PASS
T_N	V_H	15000.00	2.89575	PASS

Band: IV			Test Frequency: 5745.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T_N	V_L	20000.00	3.48129	PASS
T_N	V_N	20000.00	3.48129	PASS
T_N	V_H	19000.00	3.30722	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	14000.00	2.70270	PASS
V_N	-10	14000.00	2.70270	PASS
V_N	0	14000.00	2.70270	PASS
V_N	10	14000.00	2.70270	PASS
V_N	20	14000.00	2.70270	PASS
V_N	30	14000.00	2.70270	PASS
V_N	40	14000.00	2.70270	PASS
V_N	50	14000.00	2.70270	PASS

Band: IV			Test Frequency: 5745.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	18000.00	3.13316	PASS
V_N	-10	18000.00	3.13316	PASS
V_N	0	17000.00	2.95910	PASS
V_N	10	17000.00	2.95910	PASS
V_N	20	17000.00	2.95910	PASS
V_N	30	16000.00	2.78503	PASS
V_N	40	16000.00	2.78503	PASS
V_N	50	16000.00	2.78503	PASS

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