APPENDIX REPORT

Project No.	SHT2202009001EW	Radio Specification	WIFI 5G
Test sample No.	YPHT22020090019	Model No.	Z3
Start test date	2022-04-20	Finish date	2022-04-20
Temperature	24.0℃	Humidity	36%
Test Engineer	Xiaoqin Li	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	Frequency stability	PASS

Appendix A：Maximum Conducted Output Power

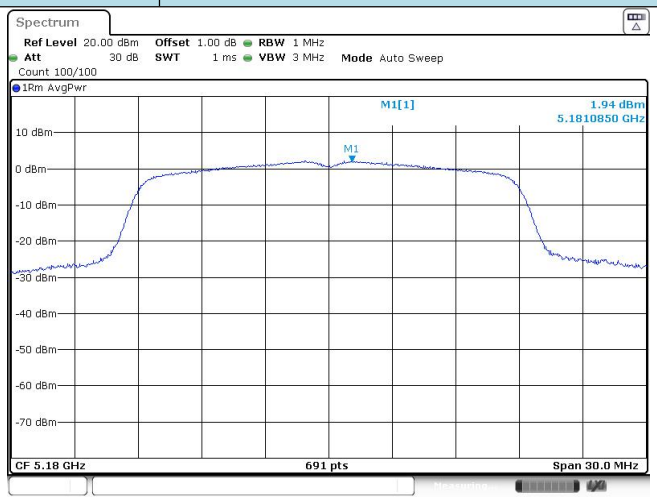
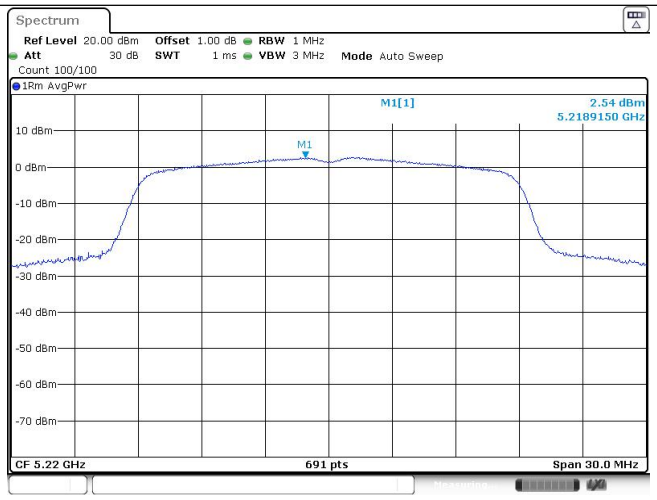
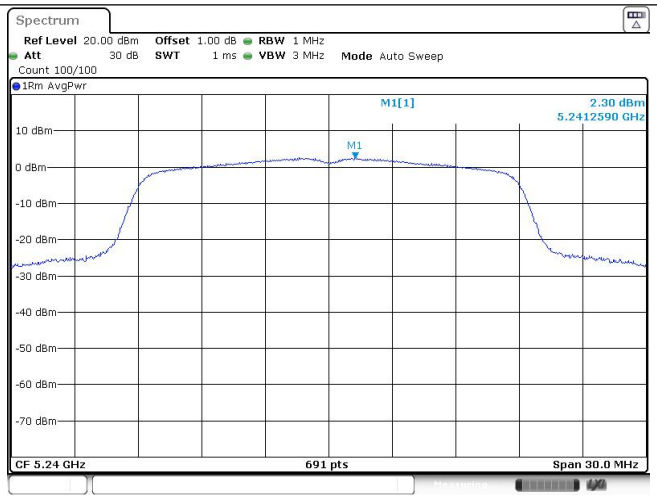
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor（dB）	Conducted Output Power (dBm)	Limit (dBm)	Result
I	20	802.11ac	CH_L	13.60	96.57	0.15	13.75	24.00	Pass
			CH_M	13.49	96.57	0.15	13.64		
			CH_H	13.66	96.57	0.15	13.81		
		802.11n	CH_L	13.70	96.54	0.15	13.85	24.00	Pass
			CH_M	14.04	96.54	0.15	14.19		
			CH_H	14.04	96.54	0.15	14.19		
		802.11a	CH_L	13.88	96.76	0.14	14.02	24.00	Pass
			CH_M	14.12	96.76	0.14	14.26		
			CH_H	14.20	96.76	0.14	14.34		
	40	802.11ac	CH_L	12.24	93.55	0.29	12.53	24.00	Pass
			CH_H	12.46	93.45	0.29	12.75		
		802.11n	CH_L	11.77	93.50	0.29	12.06	24.00	Pass
			CH_H	11.70	93.51	0.29	11.99		
II	20	802.11ac	CH_L	13.06	96.48	0.16	13.22	24.00	Pass
			CH_M	13.14	96.57	0.15	13.29		
			CH_H	12.95	96.57	0.15	13.10		
		802.11n	CH_L	13.51	96.54	0.15	13.66	24.00	Pass
			CH_M	13.58	96.54	0.15	13.73		
			CH_H	13.44	96.54	0.15	13.59		
		802.11a	CH_L	13.66	96.76	0.14	13.80	24.00	Pass
			CH_M	13.57	96.76	0.14	13.71		
			CH_H	13.64	96.76	0.14	13.78		
	40	802.11ac	CH_L	12.72	93.45	0.29	13.01	24.00	Pass
			CH_H	12.77	93.55	0.29	13.06		
		802.11n	CH_L	11.80	93.42	0.30	12.10	24.00	Pass
			CH_H	11.84	93.51	0.29	12.13		

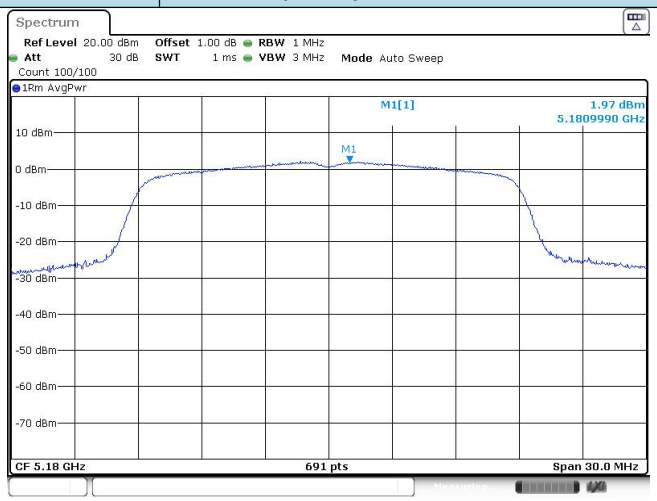
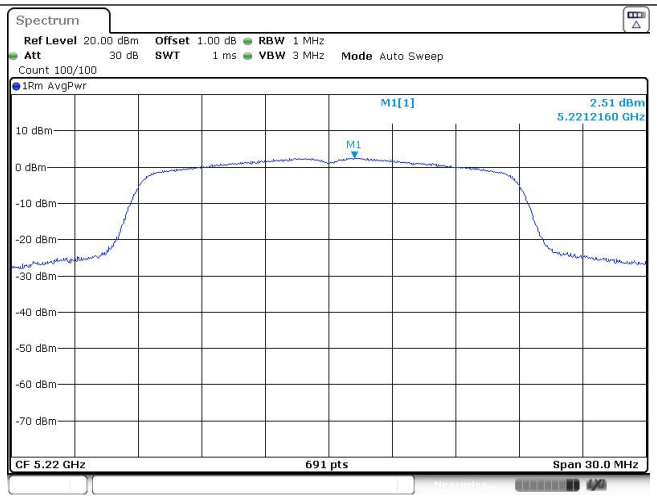
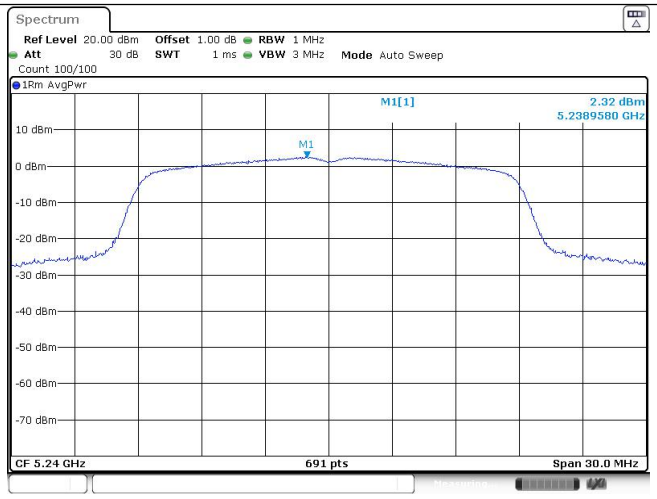
NOTE:duty cycle factor=10LOG(1/duty cycle)

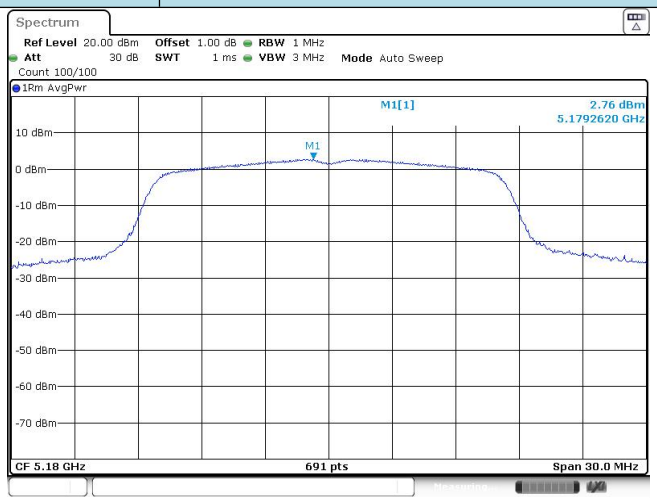
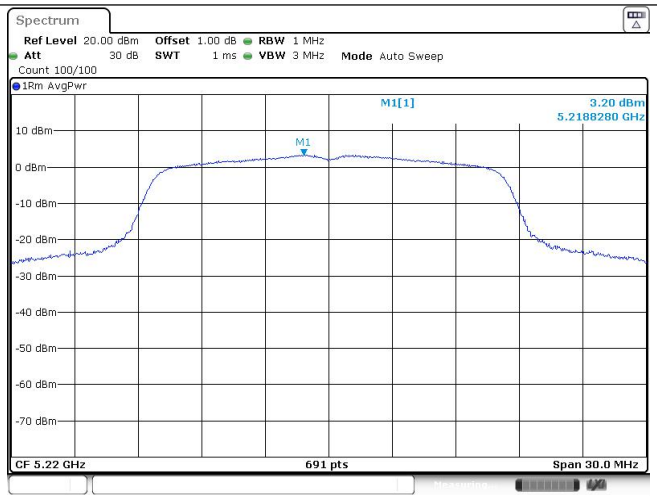
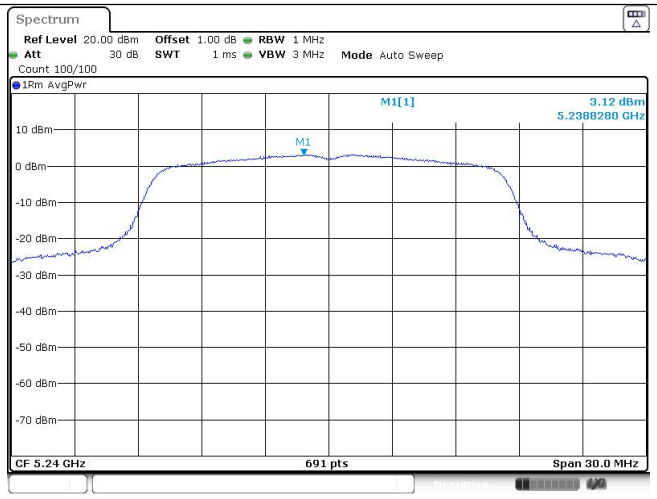
Appendix B：Maximum Power Spectral Density

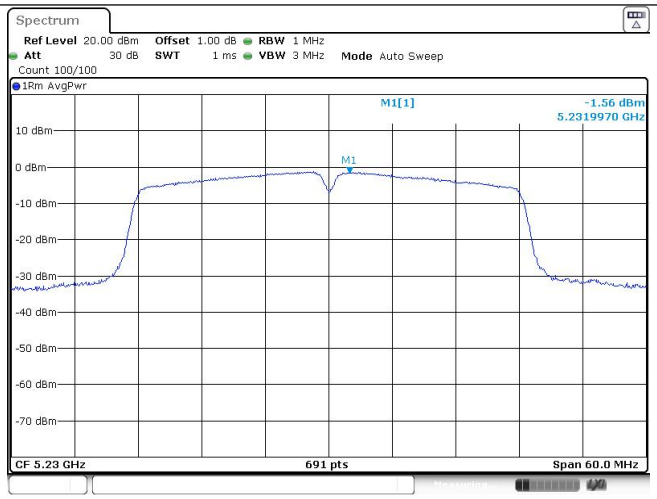
Band	Bandwidth (MHz)	Type	Channel	Reading (dBm)	Duty cycle (%)	Duty cycle factor（dB）	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Result
I	20	802.11ac	CH_L	1.94	96.57	0.15	2.09	11.00	Pass
			CH_M	2.54	96.57	0.15	2.69		
			CH_H	2.30	96.57	0.15	2.45		
		802.11n	CH_L	1.97	96.54	0.15	2.12	11.00	Pass
			CH_M	2.51	96.54	0.15	2.66		
			CH_H	2.32	96.54	0.15	2.47		
		802.11a	CH_L	2.76	96.76	0.14	2.90	11.00	Pass
			CH_M	3.20	96.76	0.14	3.34		
			CH_H	3.12	96.76	0.14	3.26		
	40	802.11ac	CH_L	-1.81	93.55	0.29	-1.52	11.00	Pass
			CH_H	-1.56	93.45	0.29	-1.27		
		802.11n	CH_L	-2.88	93.50	0.29	-2.59	11.00	Pass
			CH_H	-2.13	93.51	0.29	-1.84		
II	20	802.11ac	CH_L	2.36	96.48	0.16	2.52	11.00	Pass
			CH_M	1.64	96.57	0.15	1.79		
			CH_H	1.89	96.57	0.15	2.04		
		802.11n	CH_L	2.23	96.54	0.15	2.38	11.00	Pass
			CH_M	2.25	96.54	0.15	2.40		
			CH_H	2.38	96.54	0.15	2.53		
		802.11a	CH_L	2.51	96.76	0.14	2.65	11.00	Pass
			CH_M	2.48	96.76	0.14	2.62		
			CH_H	2.27	96.76	0.14	2.41		
	40	802.11ac	CH_L	-1.20	93.45	0.29	-0.91	11.00	Pass
			CH_H	-1.09	93.55	0.29	-0.80		
		802.11n	CH_L	-1.94	93.42	0.30	-1.64	11.00	Pass
			CH_H	-2.41	93.51	0.29	-2.12		

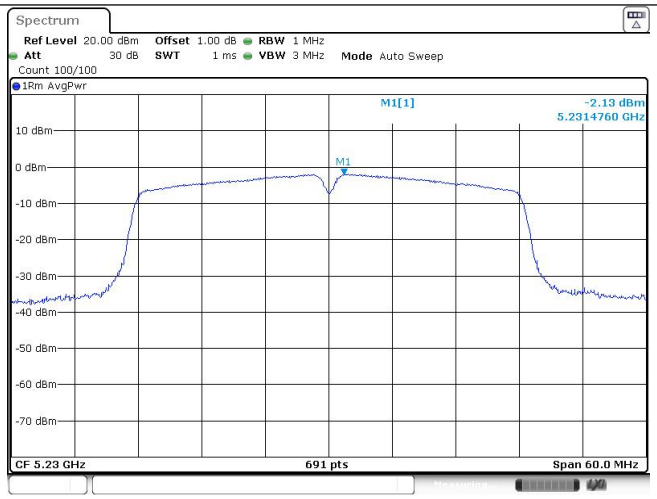
Test plot as follows:

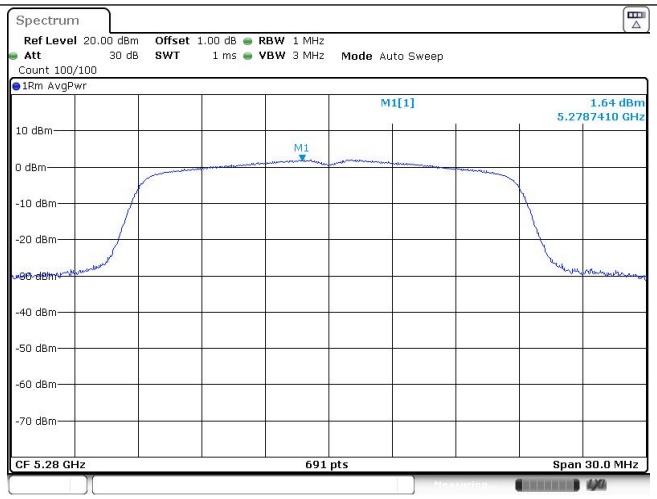
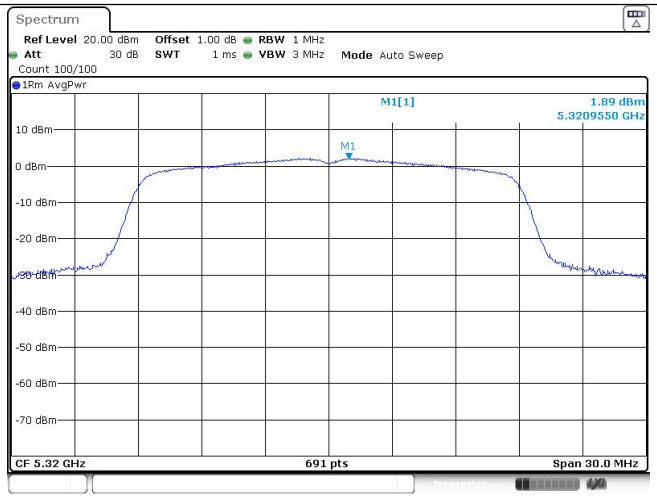
Band I	**802.11ac (HT20)**
CH_L	
CH_M	
CH_H	

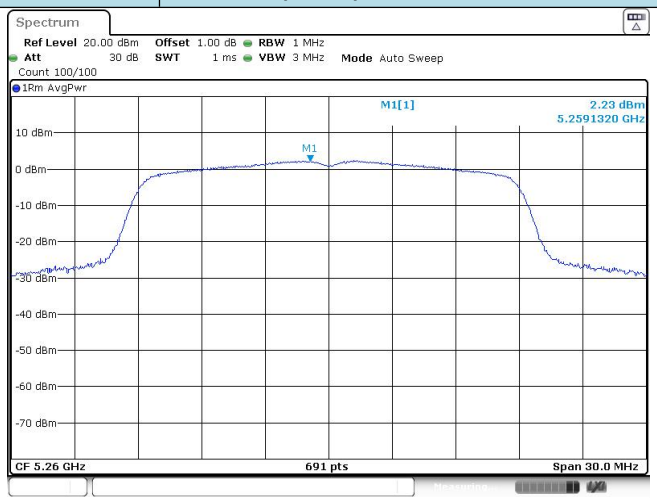
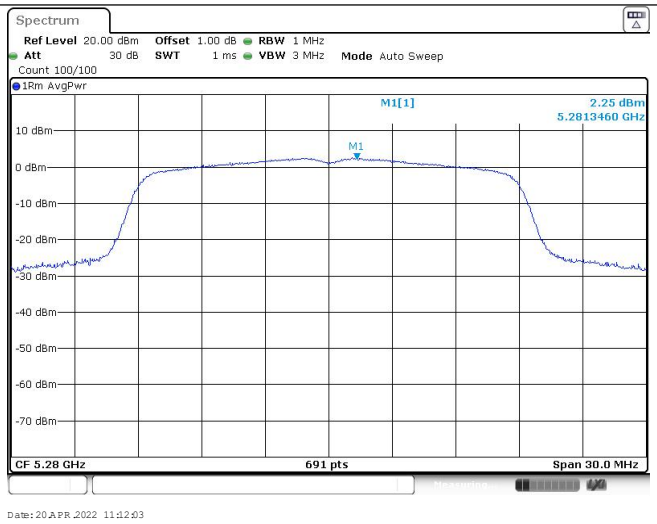
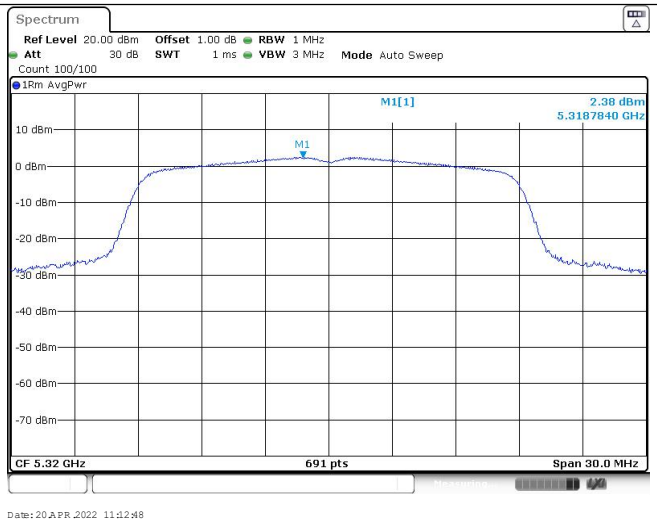
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

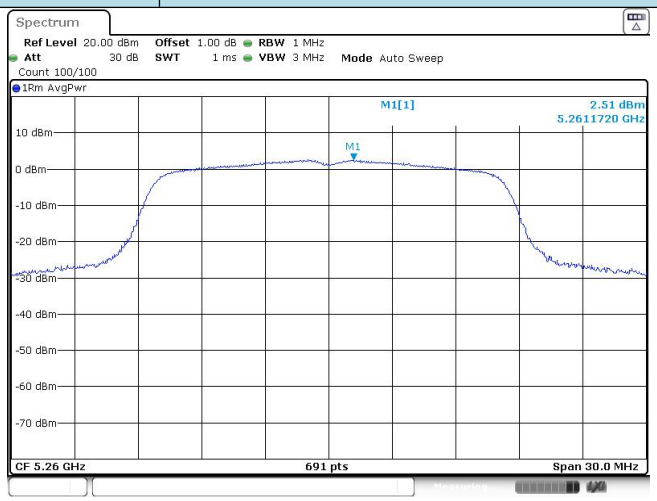
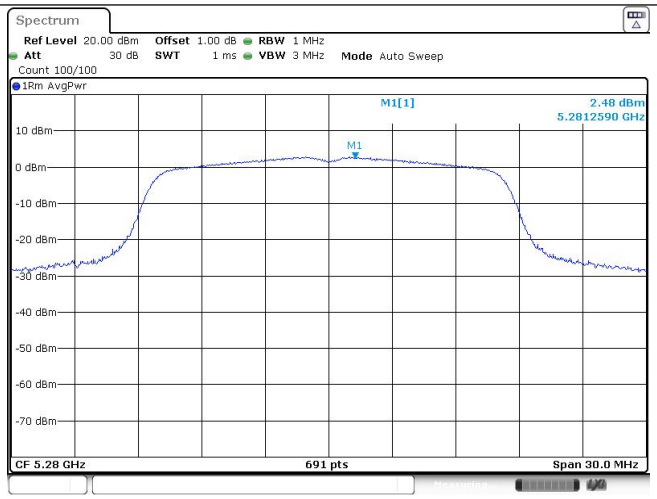
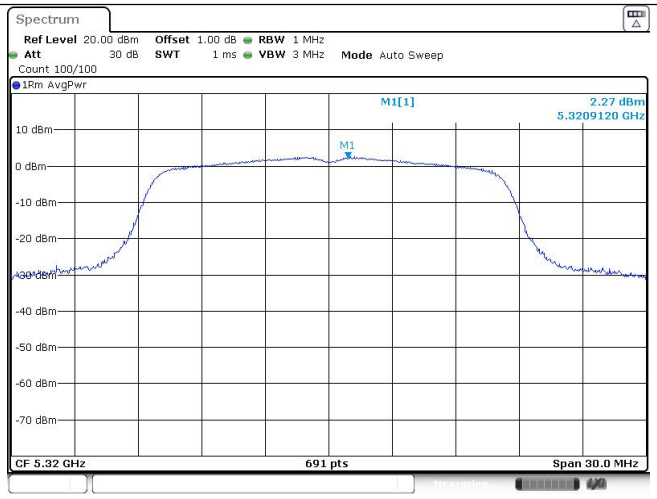
Band I	802.11a
CH_L	
CH_M	
CH_H	

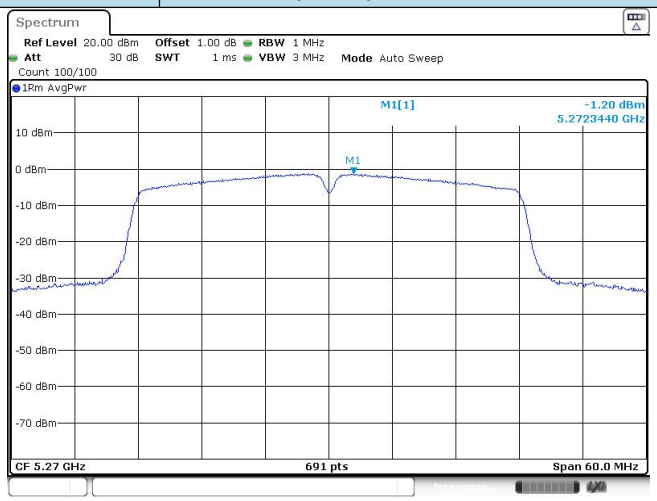
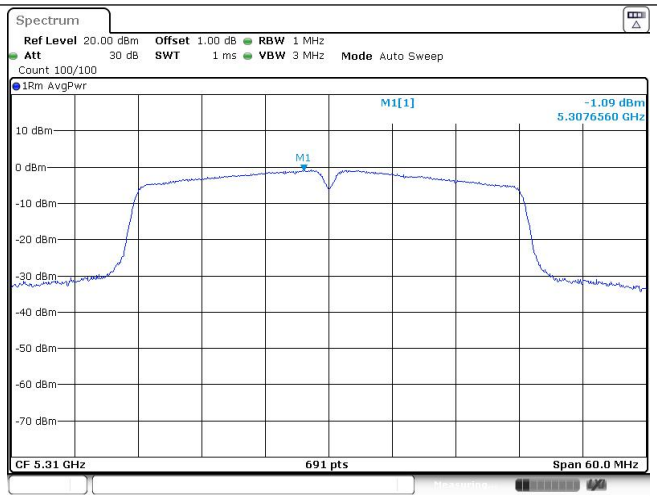
Band I	802.11ac (HT40)
CH_L	
CH_H	

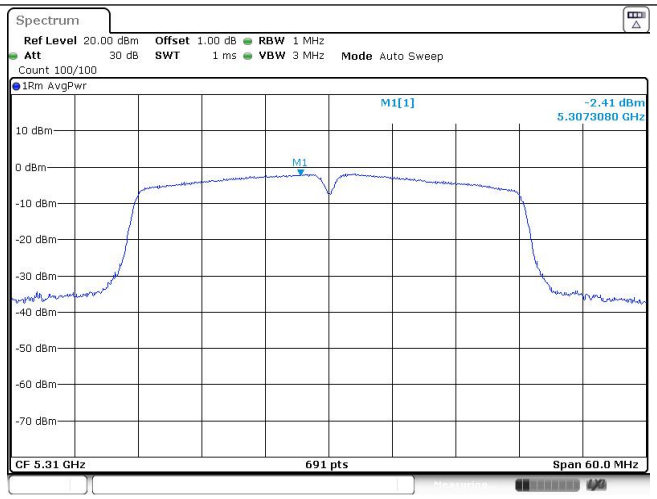
Band I	802.11n (HT40)
CH_L	
CH_H	

Band II	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band II	802.11n (HT20)
CH_L	
CH_M	
CH_H	

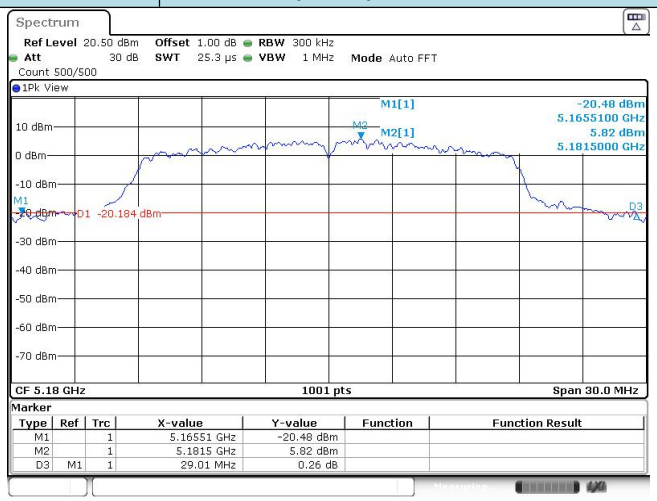
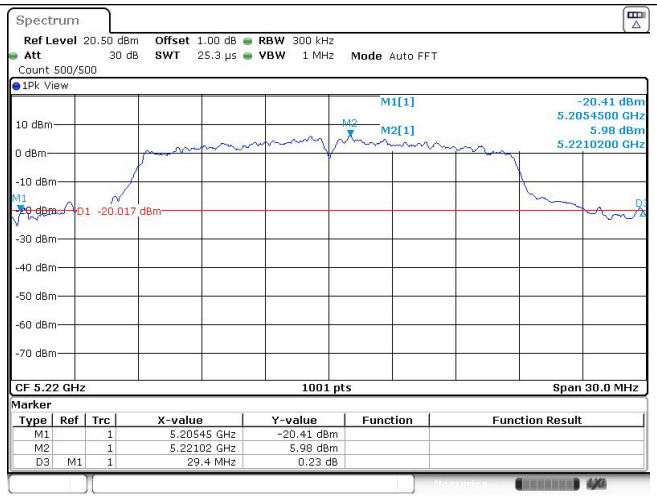
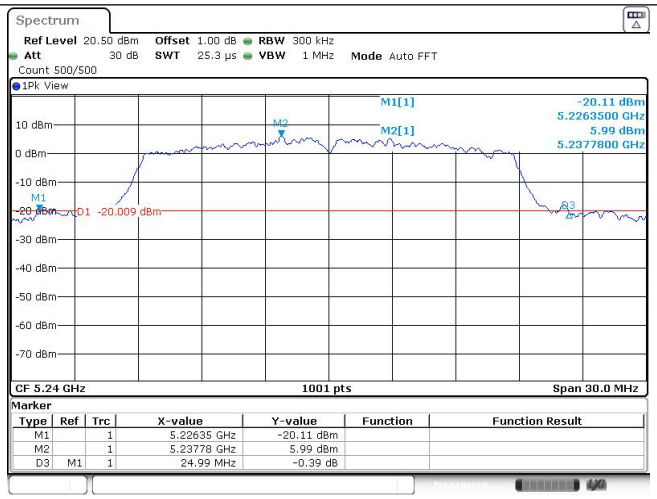
Band II	802.11a
CH_L	
CH_M	
CH_H	

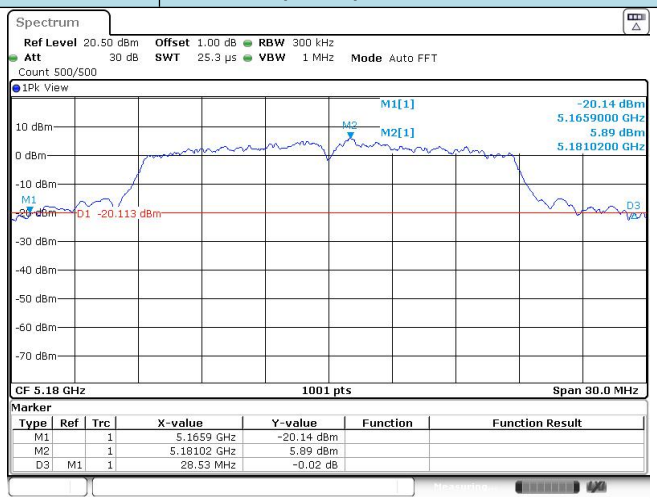
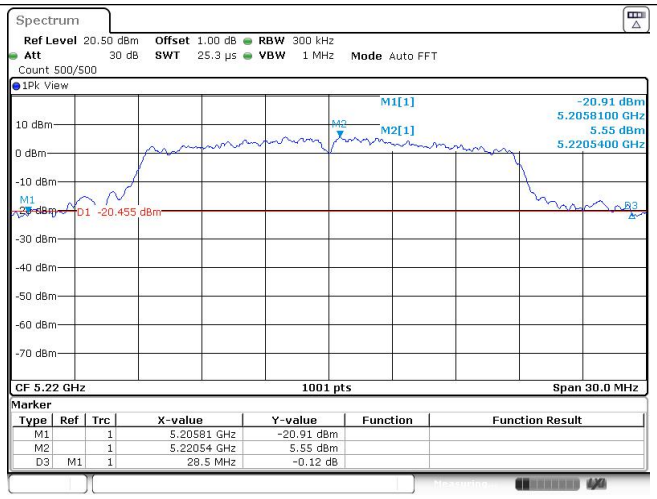
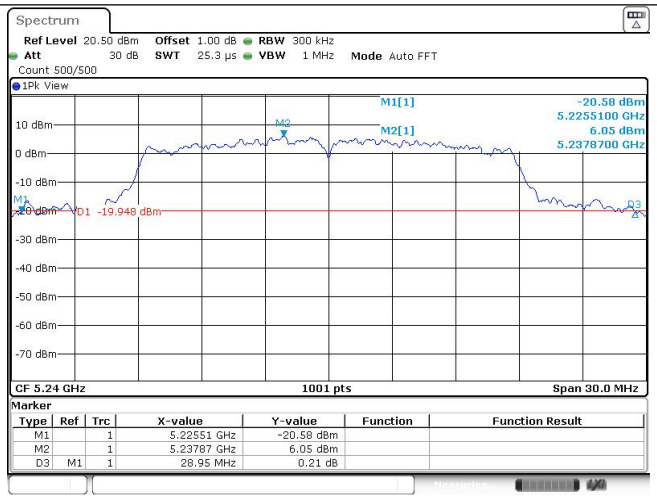
Band II	802.11ac (HT40)
CH_L	
CH_H	

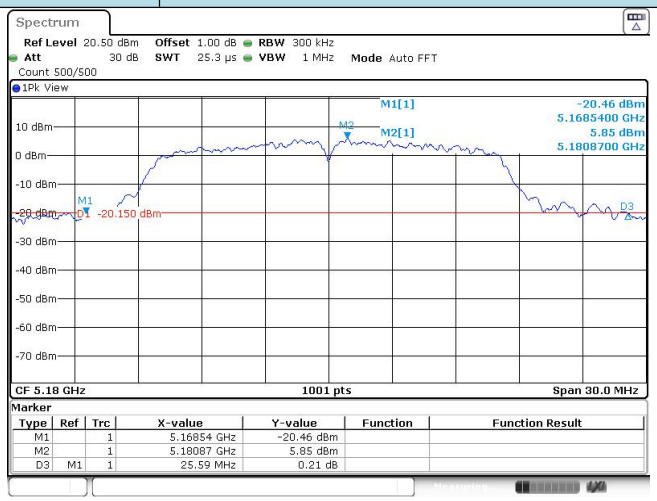
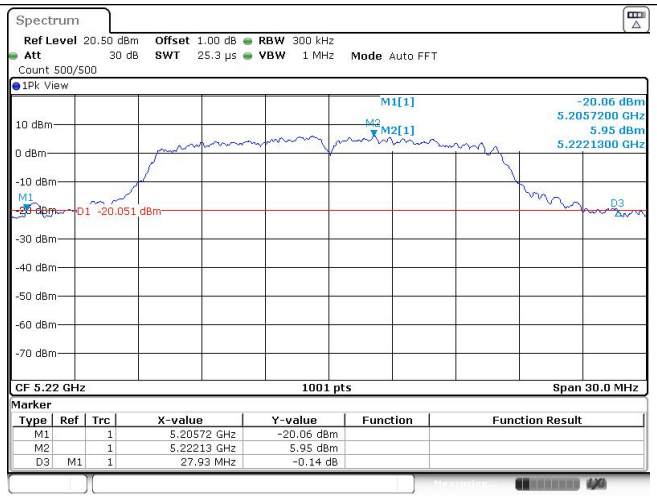
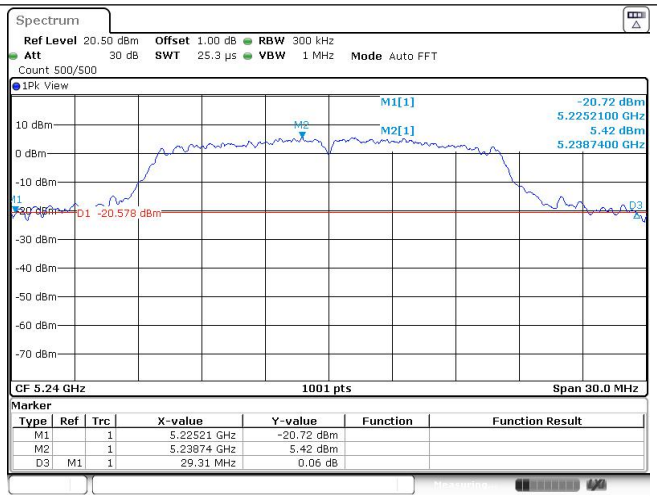
Band II	802.11n (HT40)
CH_L	
CH_H	

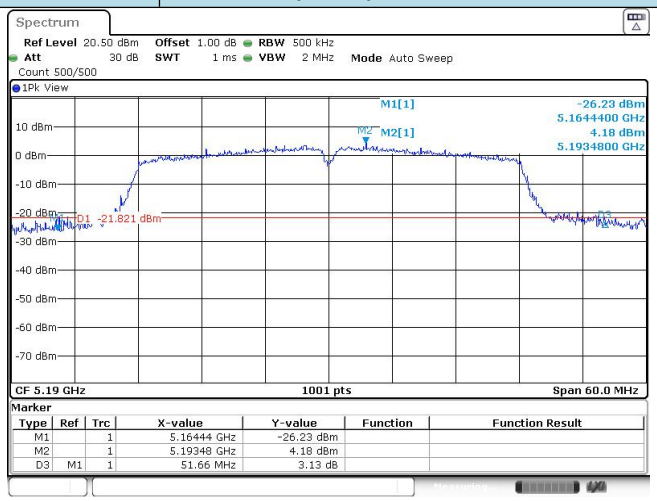
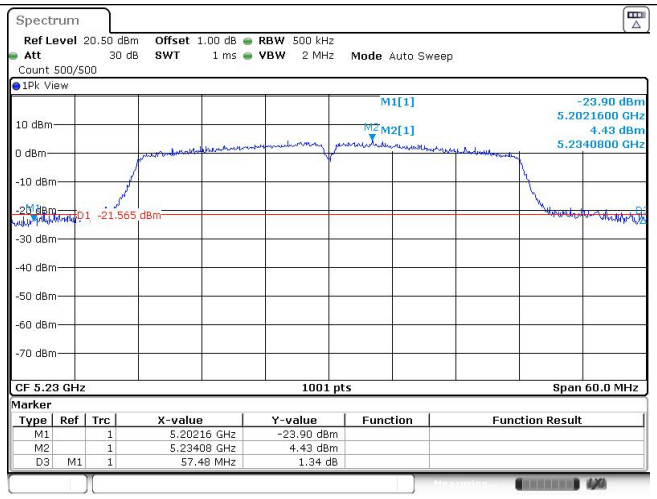
Appendix C：26dB bandwidth

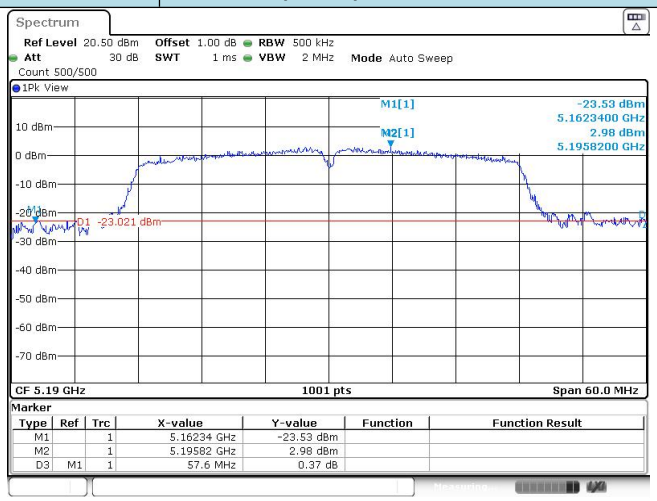
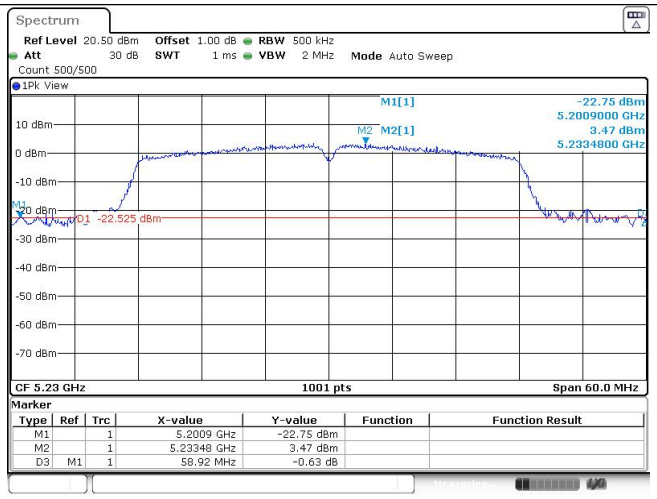
Band	Bandwidth (MHz)	Type	Channel	26dB bandwidth (MHz)	Result
I	20	802.11ac	CH_L	29.01	Pass
			CH_M	29.40	
			CH_H	24.99	
		802.11n	CH_L	28.53	Pass
			CH_M	28.50	
			CH_H	28.95	
		802.11a	CH_L	25.59	Pass
			CH_M	27.93	
			CH_H	29.31	
	40	802.11ac	CH_L	51.66	Pass
			CH_H	57.48	
		802.11n	CH_L	57.60	Pass
			CH_H	58.92	
II	20	802.11ac	CH_L	24.84	Pass
			CH_M	22.65	
			CH_H	26.40	
		802.11n	CH_L	25.20	Pass
			CH_M	26.79	
			CH_H	26.13	
		802.11a	CH_L	20.61	Pass
			CH_M	27.60	
			CH_H	26.16	
	40	802.11ac	CH_L	53.52	Pass
			CH_H	57.72	
		802.11n	CH_L	59.04	Pass
			CH_H	54.18	

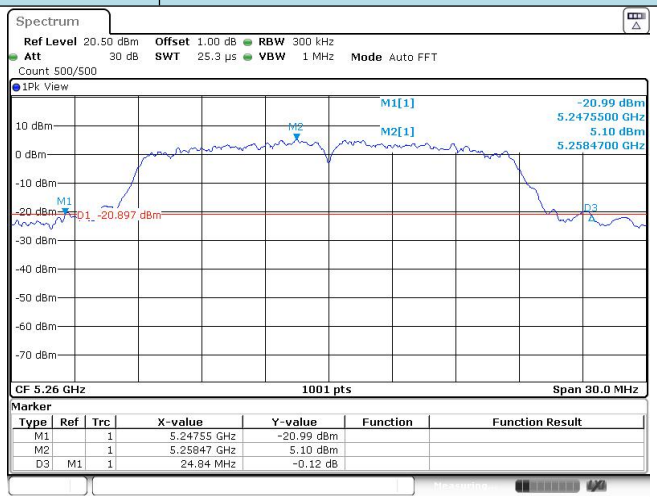
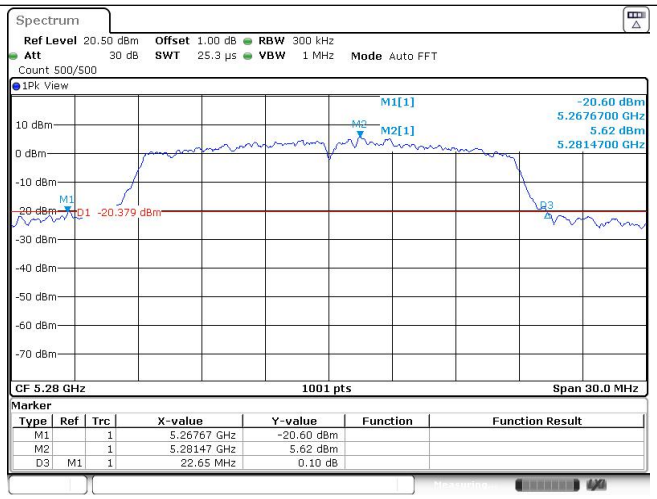
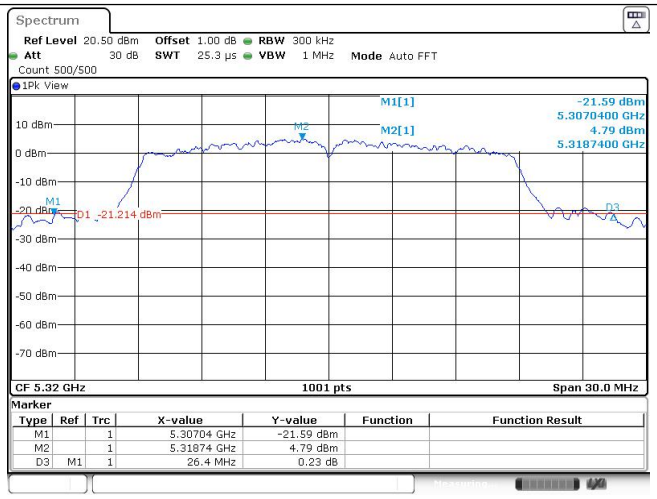
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

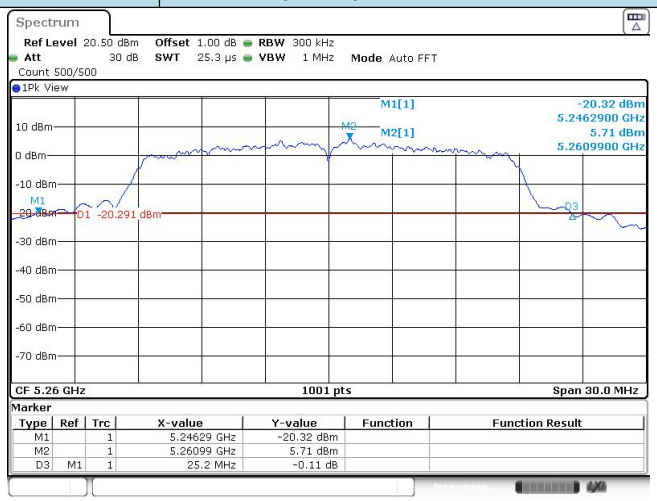
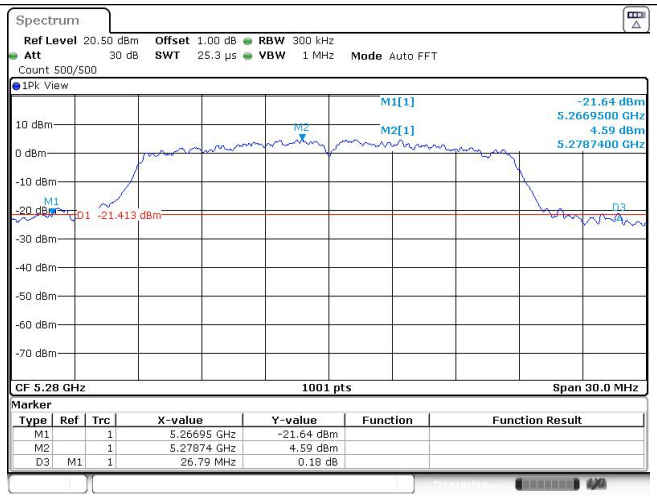
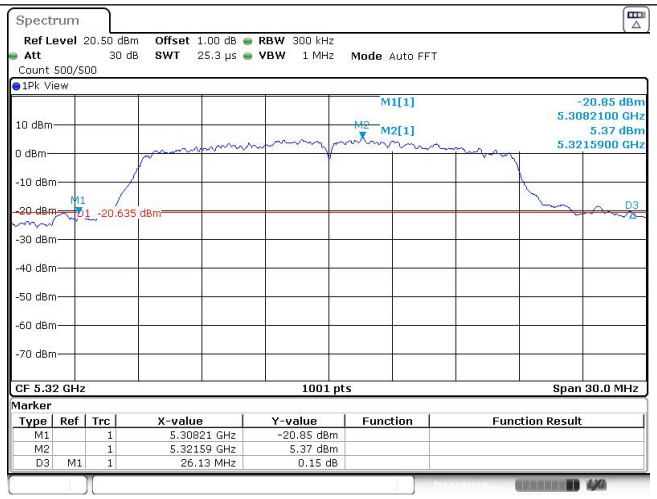
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

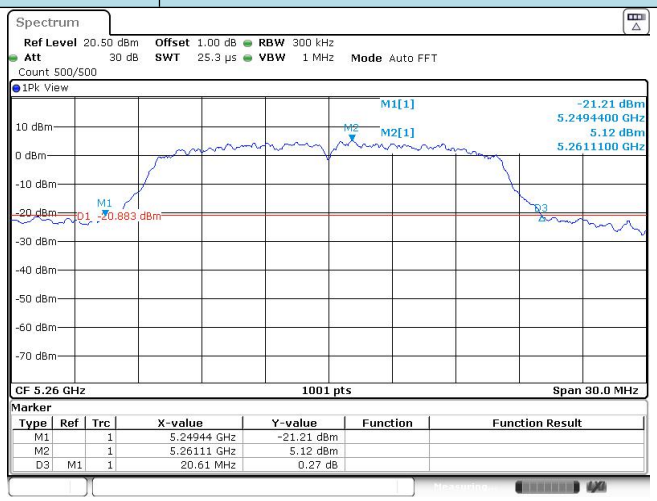
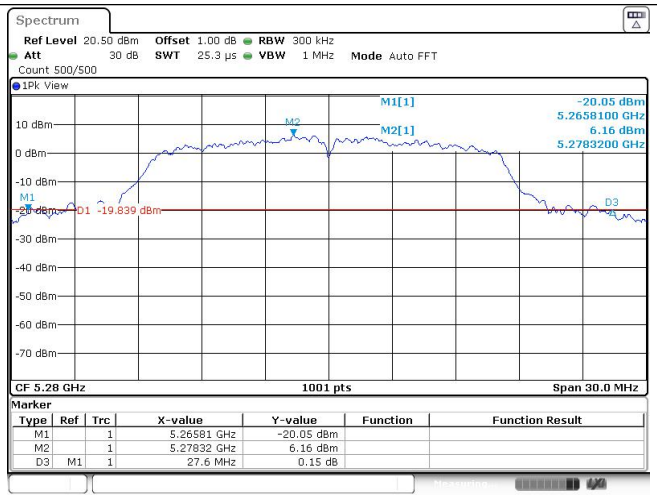
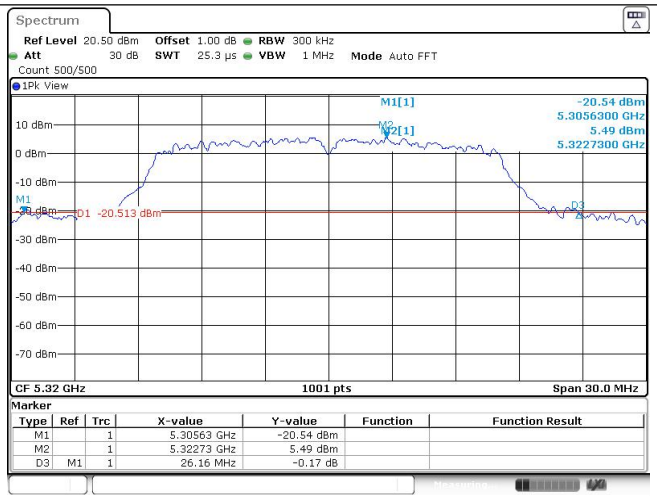
Band I	802.11a
CH_L	
CH_M	
CH_H	

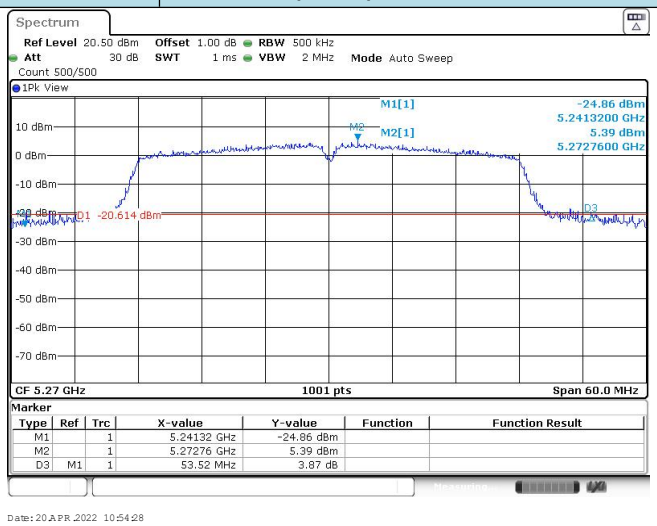
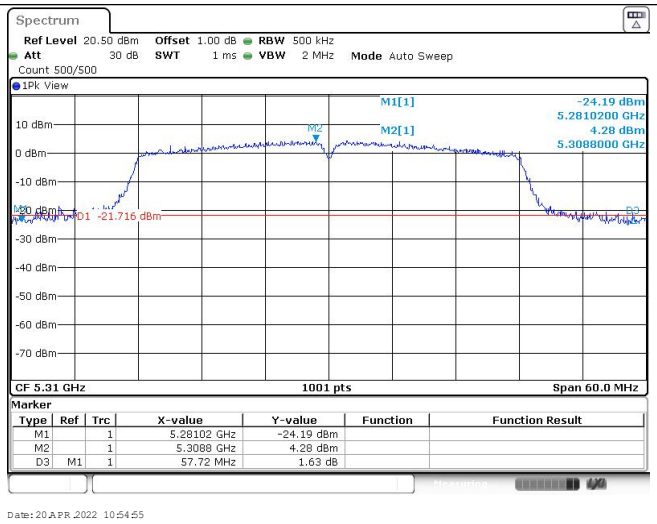
Band I	802.11ac (HT40)
CH_L	
CH_H	

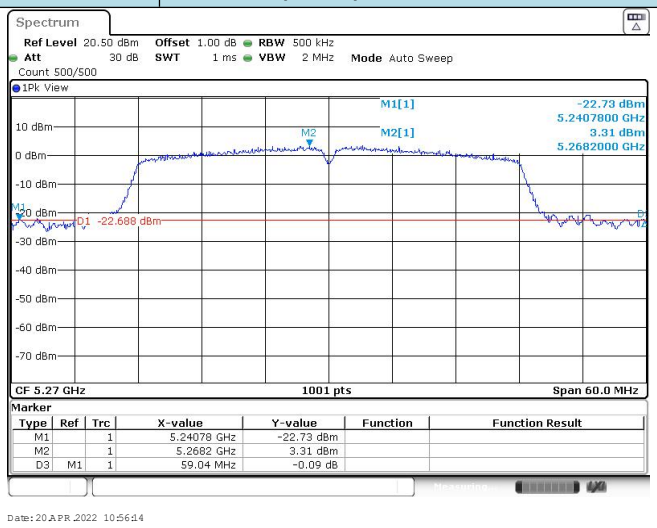
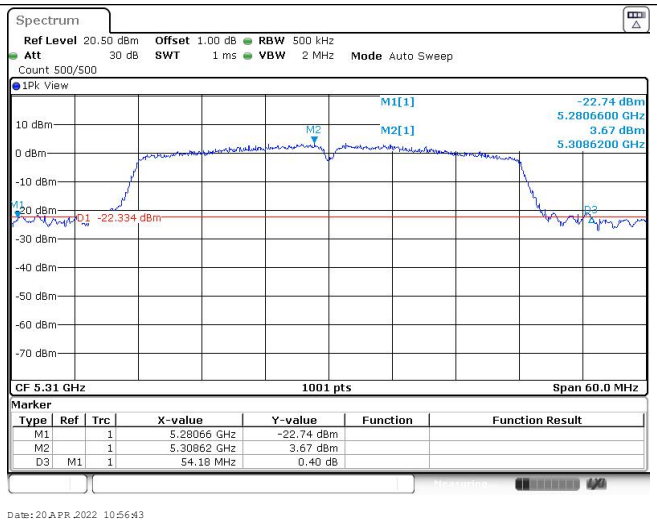
Band I	802.11n (HT40)
CH_L	
CH_H	

Band II	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band II	802.11n (HT20)
CH_L	
CH_M	
CH_H	

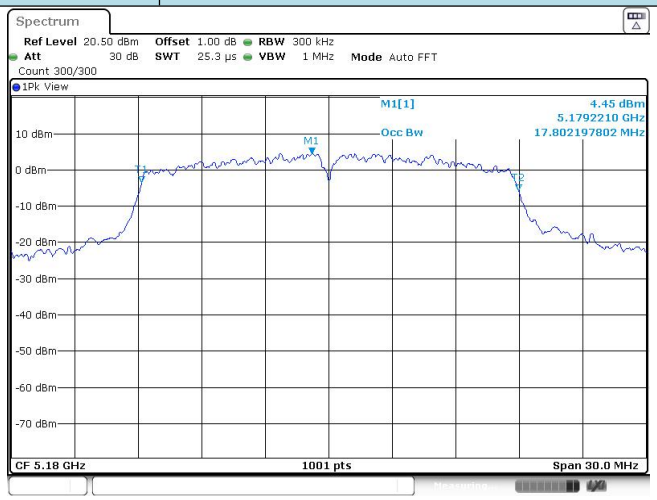
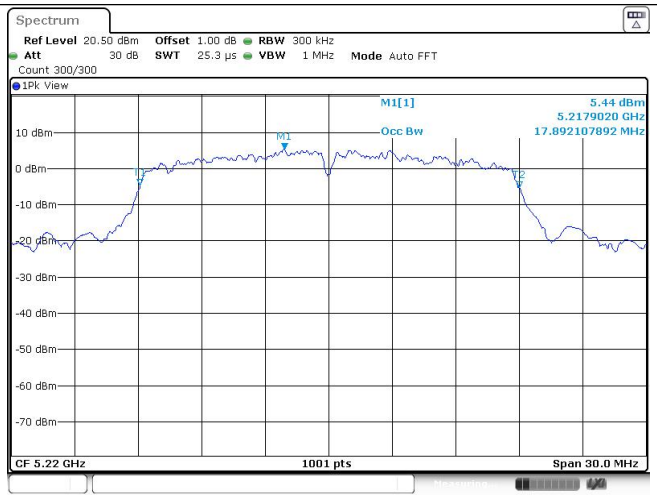
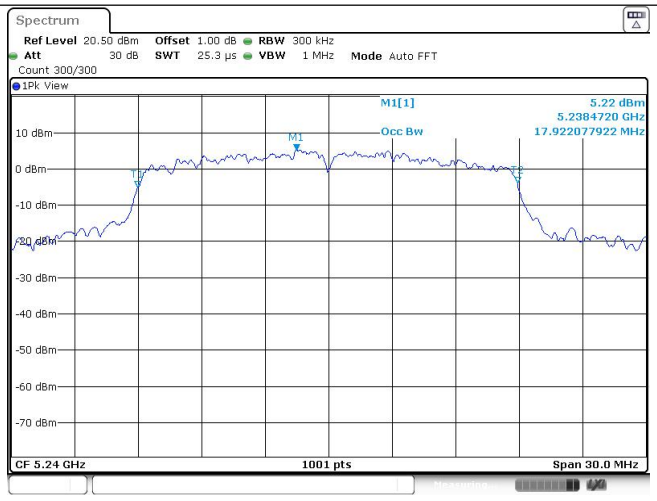
Band II	802.11a
CH_L	
CH_M	
CH_H	

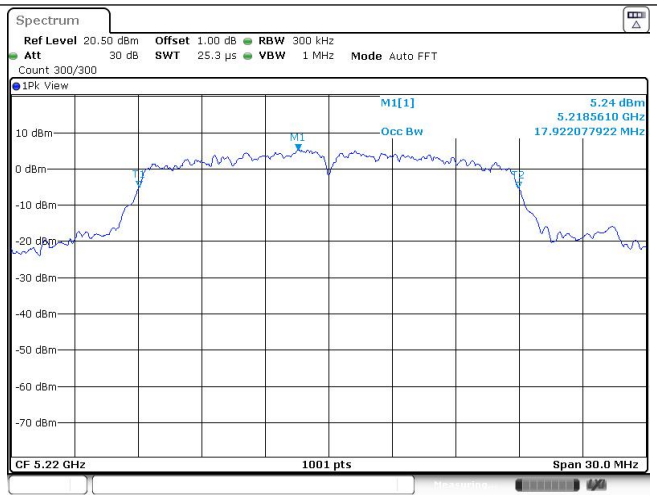
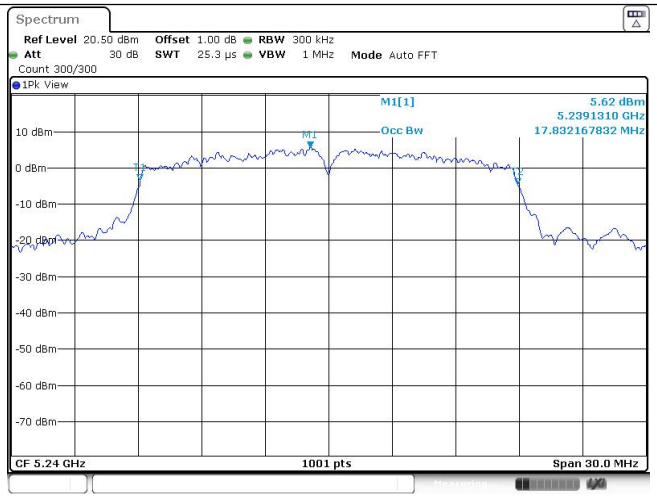
Band II	802.11ac (HT40)
CH_L	
CH_H	

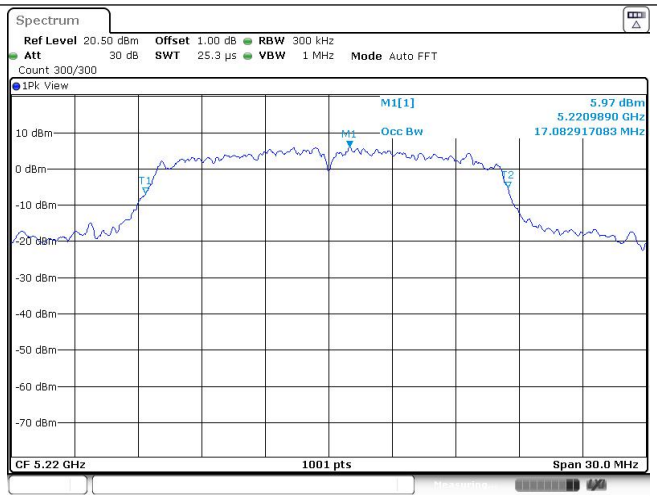
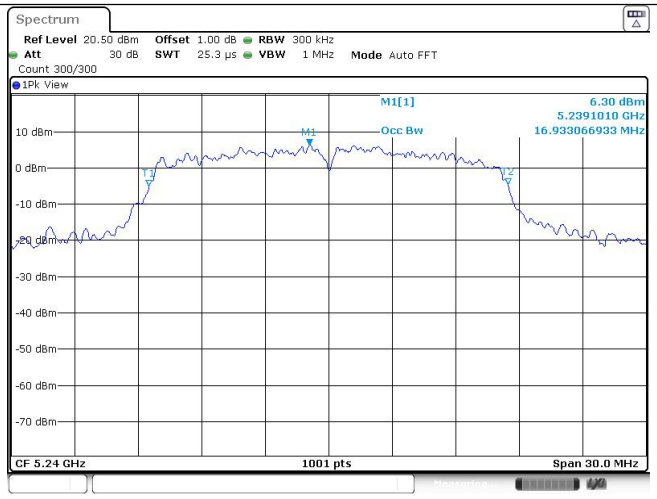
Band II	802.11n (HT40)
CH_L	
CH_H	

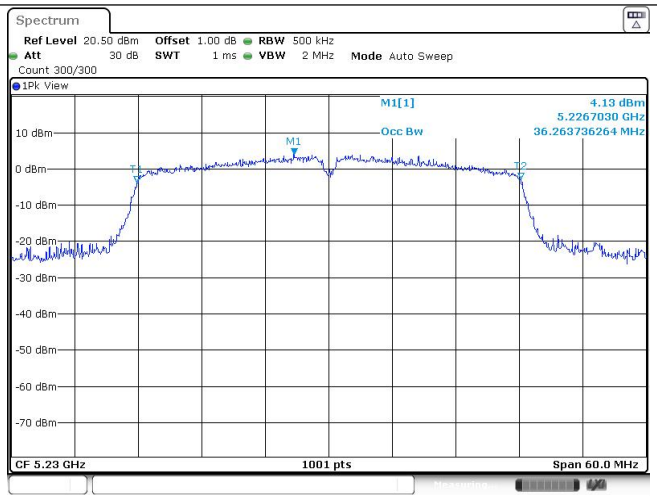
Appendix D：99% Occupy bandwidth

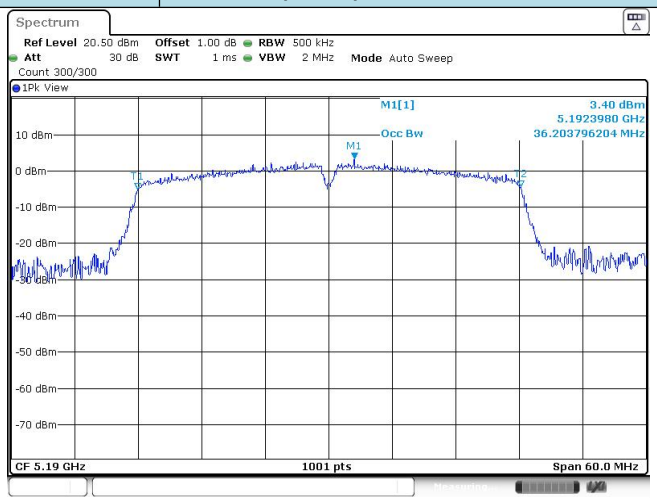
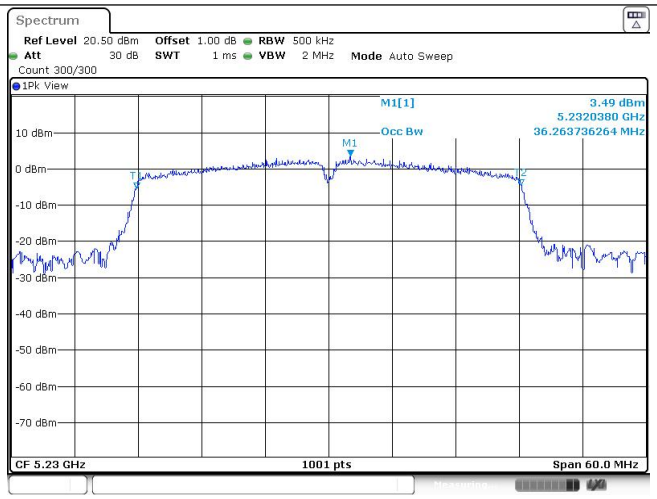
Band	Bandwidth (MHz)	Type	Channel	99% Occupy bandwidth (MHz)	Result
I	20	802.11ac	CH_L	17.80	Pass
			CH_M	17.89	
			CH_H	17.92	
		802.11n	CH_L	17.92	Pass
			CH_M	17.92	
			CH_H	17.83	
		802.11a	CH_L	17.05	Pass
			CH_M	17.08	
			CH_H	16.93	
	40	802.11ac	CH_L	36.26	Pass
			CH_H	36.26	
		802.11n	CH_L	36.20	Pass
			CH_H	36.26	
II	20	802.11ac	CH_L	17.68	Pass
			CH_M	17.89	
			CH_H	17.74	
		802.11n	CH_L	17.89	Pass
			CH_M	17.92	
			CH_H	17.77	
		802.11a	CH_L	16.87	Pass
			CH_M	16.81	
			CH_H	16.81	
	40	802.11ac	CH_L	36.26	Pass
			CH_H	36.26	
		802.11n	CH_L	36.26	Pass
			CH_H	36.26	

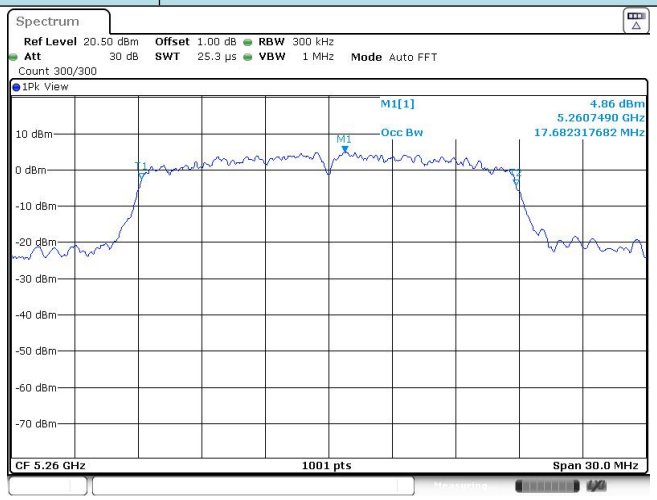
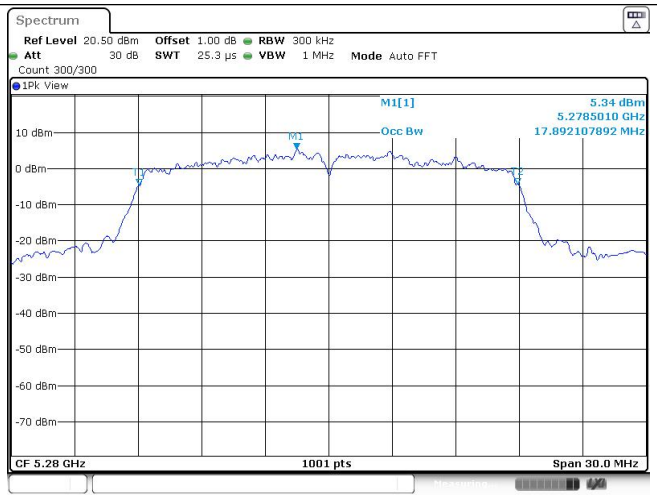
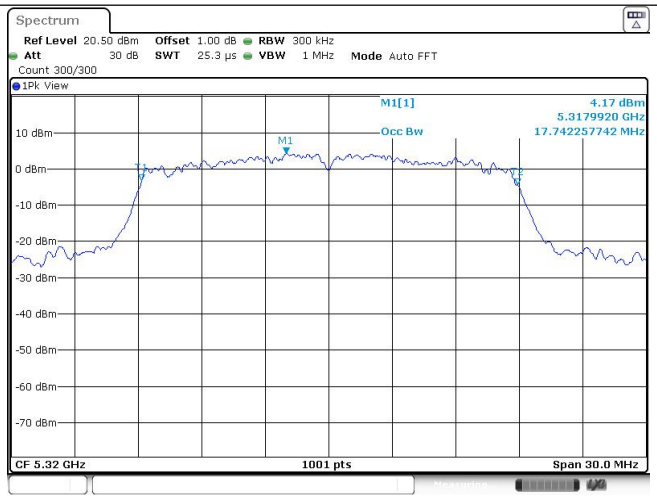
Band I	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

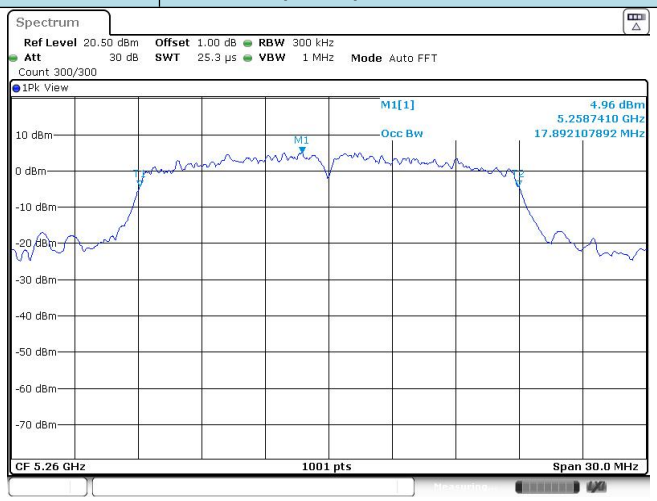
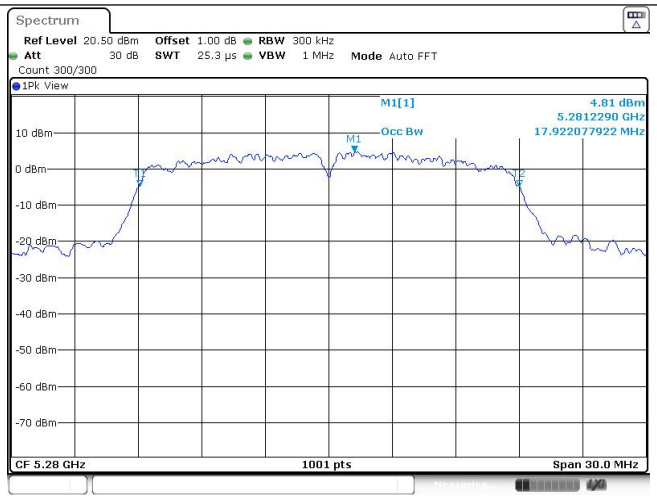
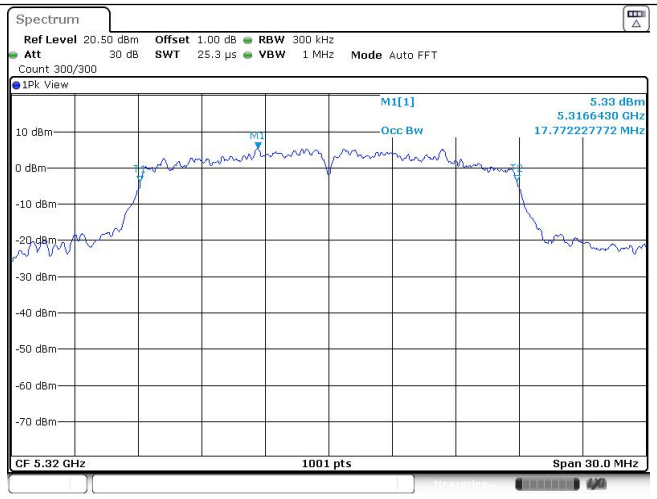
Band I	802.11n (HT20)
CH_L	
CH_M	
CH_H	

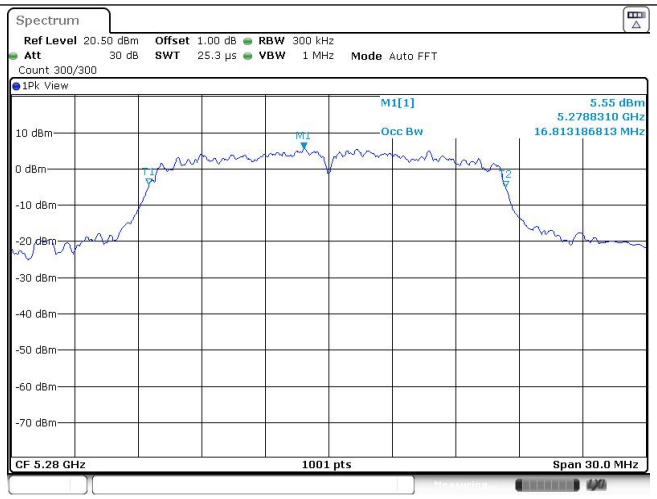
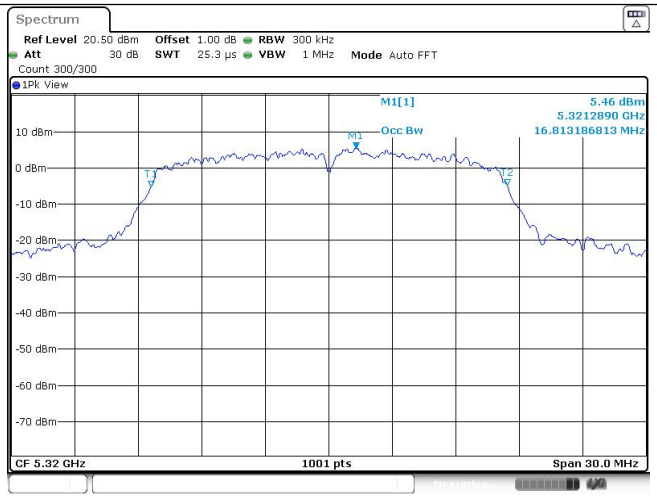
Band I	802.11a
CH_L	
CH_M	
CH_H	

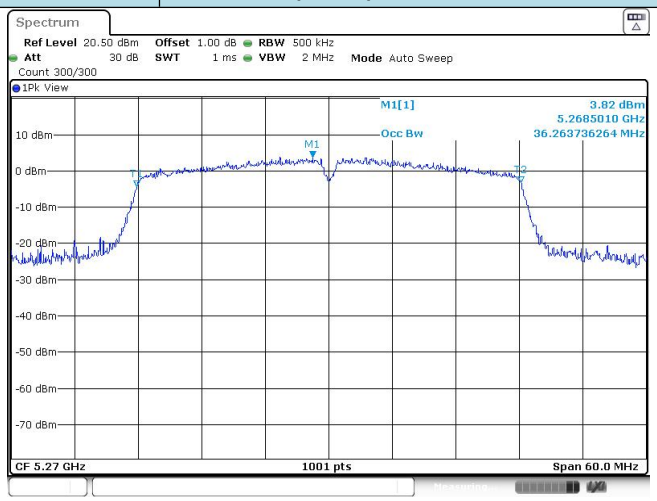
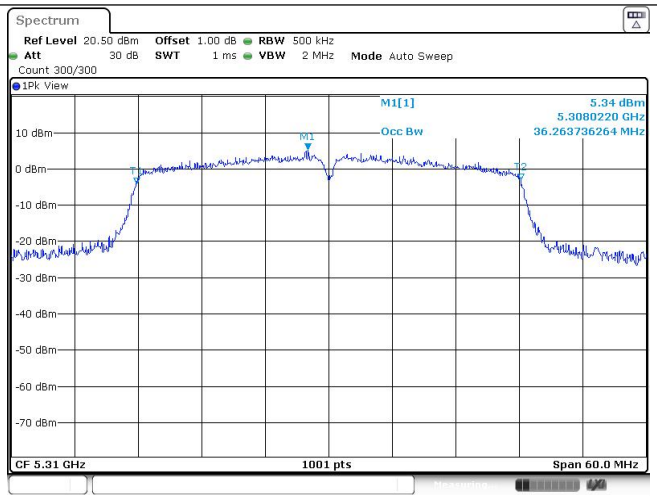
Band I	802.11ac (HT40)
CH_L	
CH_H	

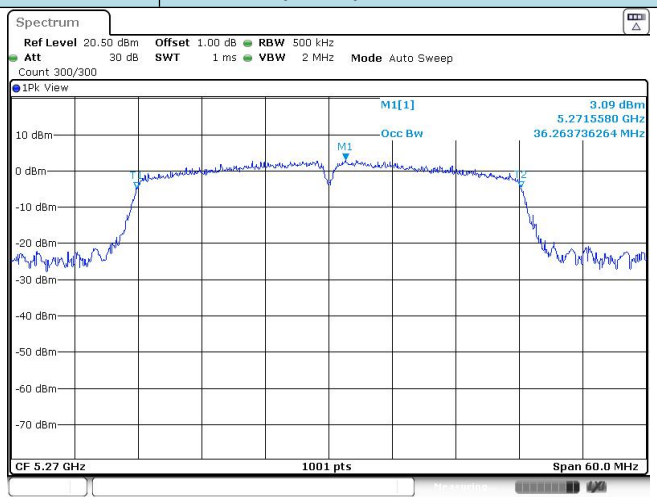
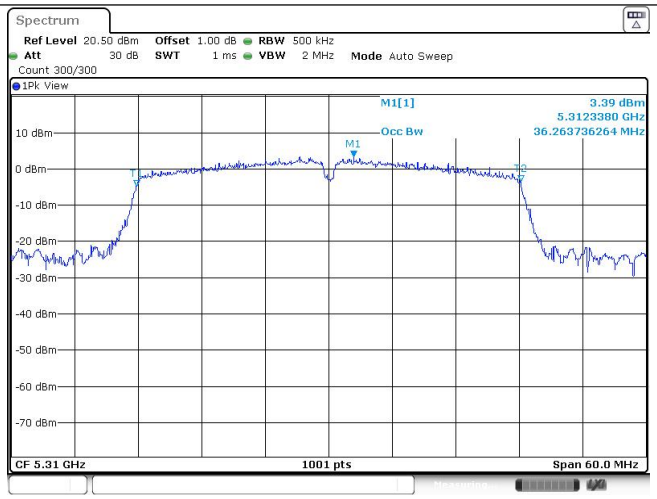
Band I	802.11n (HT40)
CH_L	
CH_H	

Band II	802.11ac (HT20)
CH_L	
CH_M	
CH_H	

Band II	802.11n (HT20)
CH_L	
CH_M	
CH_H	

Band II	802.11a
CH_L	
CH_M	
CH_H	

Band II	802.11ac (HT40)
CH_L	
CH_H	

Band II	802.11n (HT40)
CH_L	
CH_H	

Appendix E：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	-7000.00	-1.35135	PASS
T_N	V_N	-6000.00	-1.15830	PASS
T_N	V_H	-11000.00	-2.12355	PASS

Band: II			Test Frequency: 5260.00MHz	
Temperature (℃)	Voltage (V)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
T_N	V_L	-9000.00	-1.71103	PASS
T_N	V_N	-7000.00	-1.33080	PASS
T_N	V_H	-13000.00	-2.47148	PASS

Temperature VS Frequency stability

Band: I			Test Frequency: 5180.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	-15000.00	-2.89575	PASS
V_N	-10	-17000.00	-3.28185	PASS
V_N	0	-18000.00	-3.47490	PASS
V_N	10	-18000.00	-3.47490	PASS
V_N	20	-19000.00	-3.66795	PASS
V_N	30	-19000.00	-3.66795	PASS
V_N	40	-19000.00	-3.66795	PASS
V_N	50	-20000.00	-3.86100	PASS

Band: II			Test Frequency: 5260.00MHz	
Voltage (V)	Temperature (℃)	Frequency Deviation (Hz)	Frequency Deviation (ppm)	Result
V_N	-20	-17000.00	-3.23194	PASS
V_N	-10	-18000.00	-3.42205	PASS
V_N	0	-19000.00	-3.61217	PASS
V_N	10	-19000.00	-3.61217	PASS
V_N	20	-19000.00	-3.61217	PASS
V_N	30	-20000.00	-3.80228	PASS
V_N	40	-20000.00	-3.80228	PASS
V_N	50	-20000.00	-3.80228	PASS

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