

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Output Power Result

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
802.11n HT20	MCS0(6.5 Mbps)
802.11n HT40	MCS0(13.5 Mbps)
802.11ac HT20	MCS0(6.5 Mbps)
802.11ac HT40	MCS0(13.5 Mbps)
802.11ac HT80	MCS0(29.3 Mbps)

Output Power

Band	Test Mode	Average Power(dBm)			Limit (dBm)
		5180MHz	5200MHz	5240MHz	
U-NII-1	802.11n HT20	16.78	16.85	16.79	30.0
	802.11ac VHT20	15.07	15.33	15.17	30.0
	Test Mode	Average Power(dBm)			Limit (dBm)
		5190 MHz	5230 MHz		
	802.11n HT40	15.66	15.60		30.0
	802.11ac VHT40	14.78	14.79		30.0
	Test Mode	Average Power(dBm)			Limit (dBm)
		5210 MHz			
802.11ac VHT80	14.68			30.0	

Band	Test Mode	Average Power(dBm)			Limit (dBm)
		5745MHz	5785MHz	5825MHz	
U-NII-3	802.11n HT20	15.69	15.51	15.28	30.0
	802.11ac VHT20	13.94	13.50	13.40	30.0
	Test Mode	Average Power(dBm)			Limit (dBm)
		5755 MHz	5795 MHz		
	802.11n HT40	14.38	14.12		30.0
	802.11ac VHT40	13.59	13.24		30.0
	Test Mode	Average Power(dBm)			Limit (dBm)
		5775MHz			
802.11ac VHT80	13.24			30.0	

We chose the Worst-modes are shown as following table:

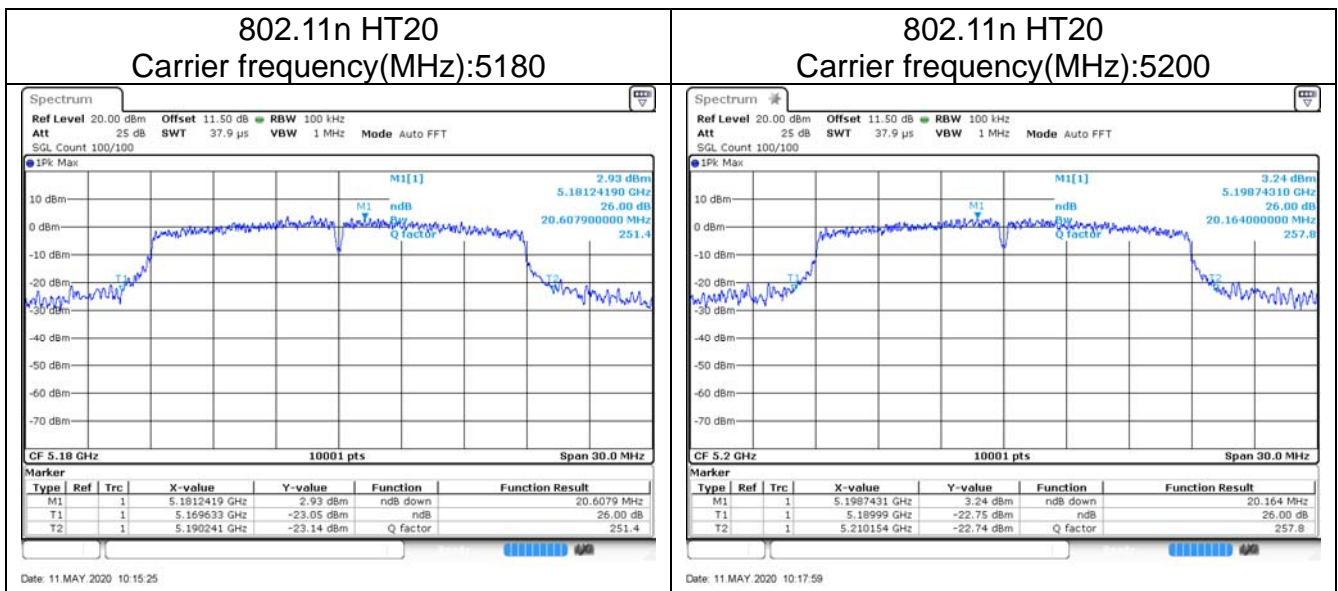
Test Mode	Note
802.11n HT20	Cover 802.11ac VHT20
802.11n HT40	Cover 802.11ac VHT40
802.11ac VHT80	---

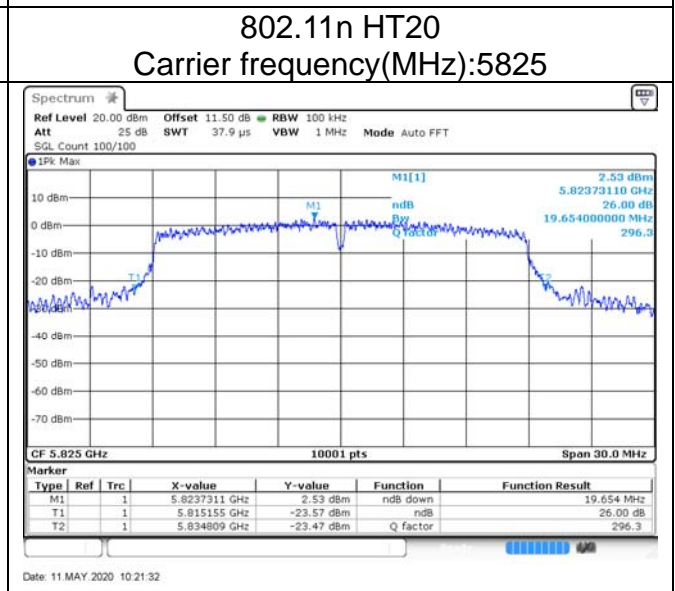
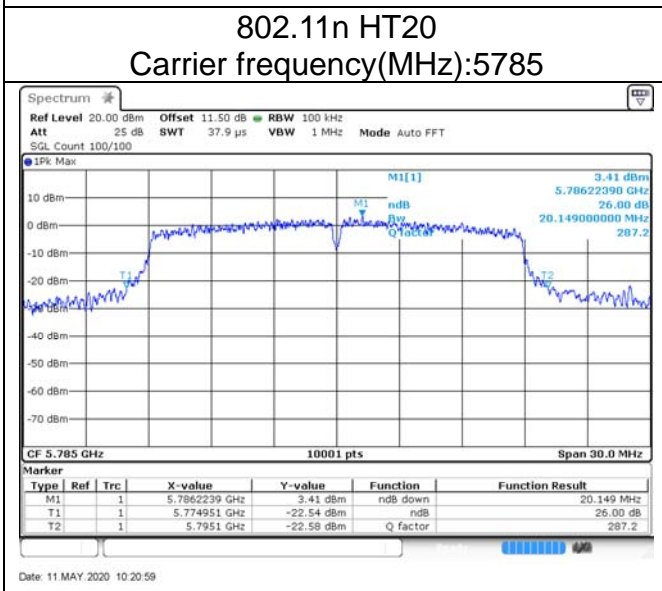
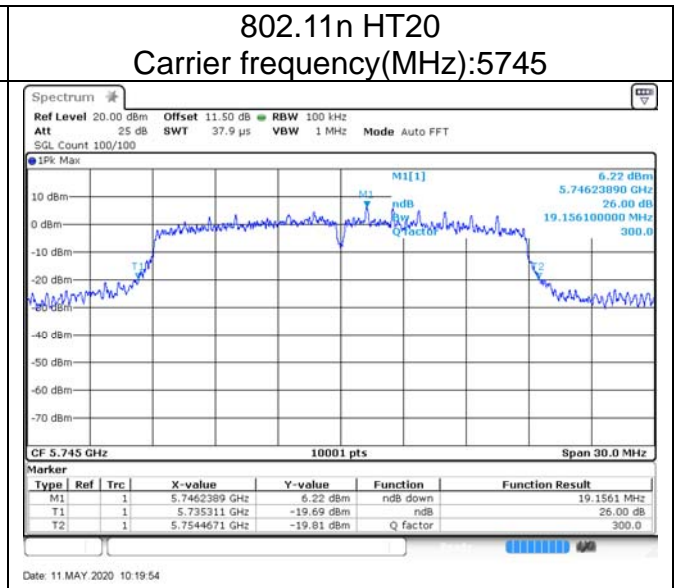
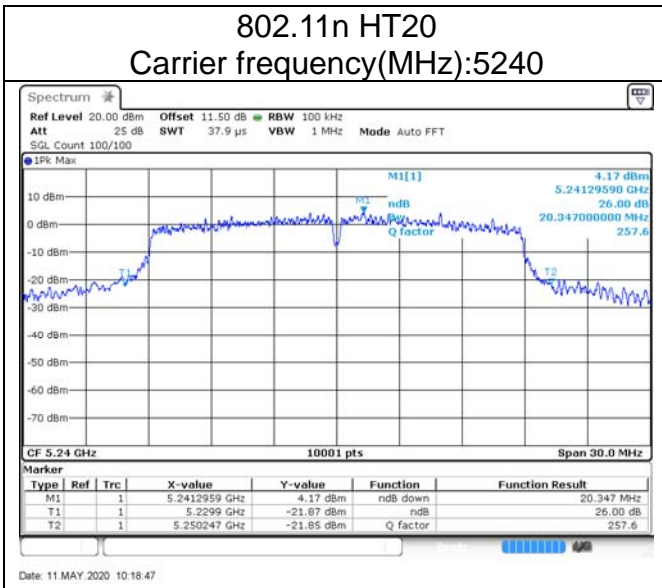
Occupied Bandwidth

Offset 11.5dB = Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1.3dB

Test Mode: 802.11n HT20

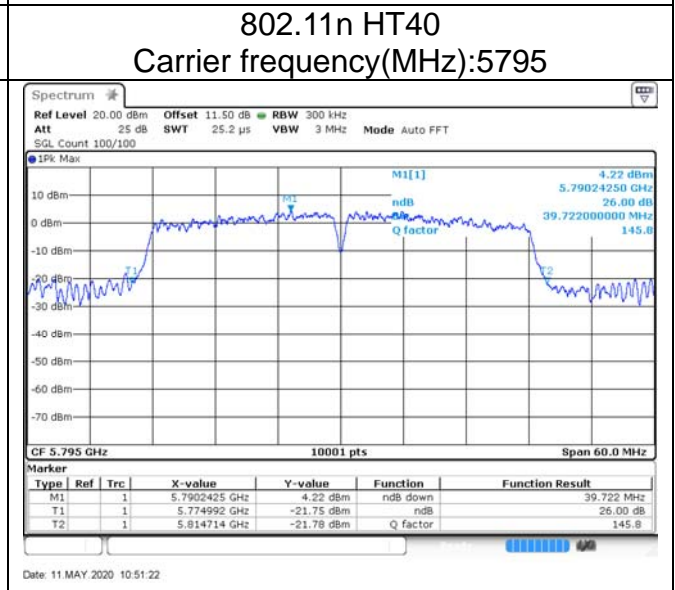
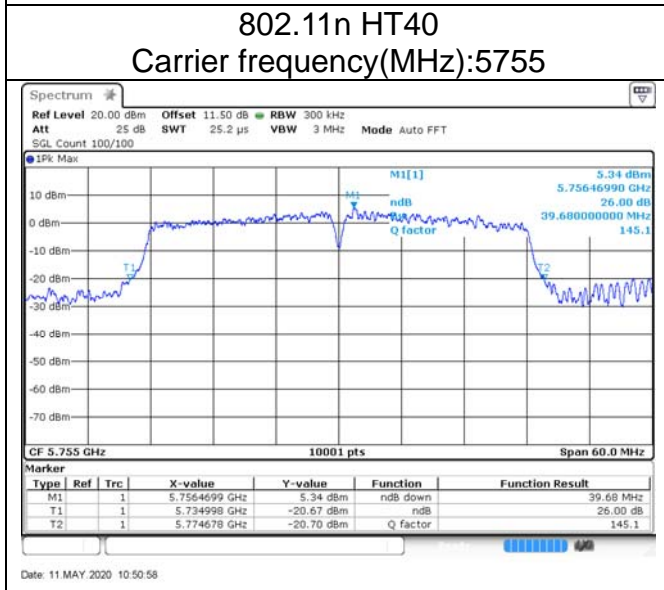
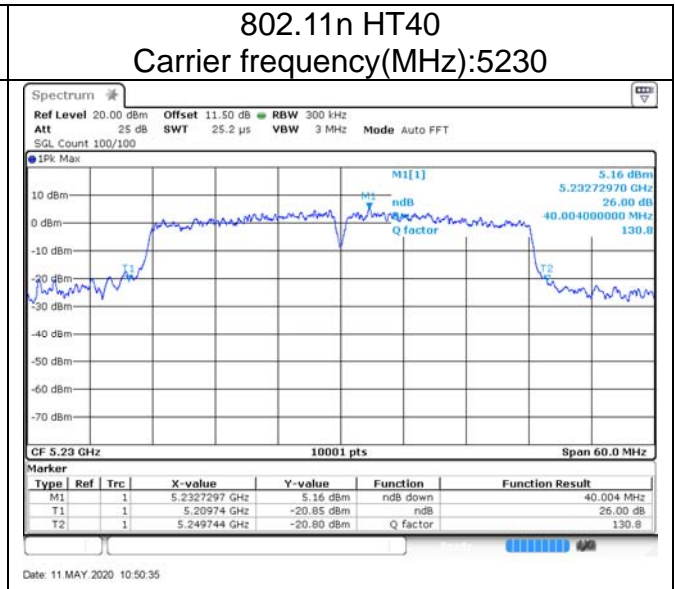
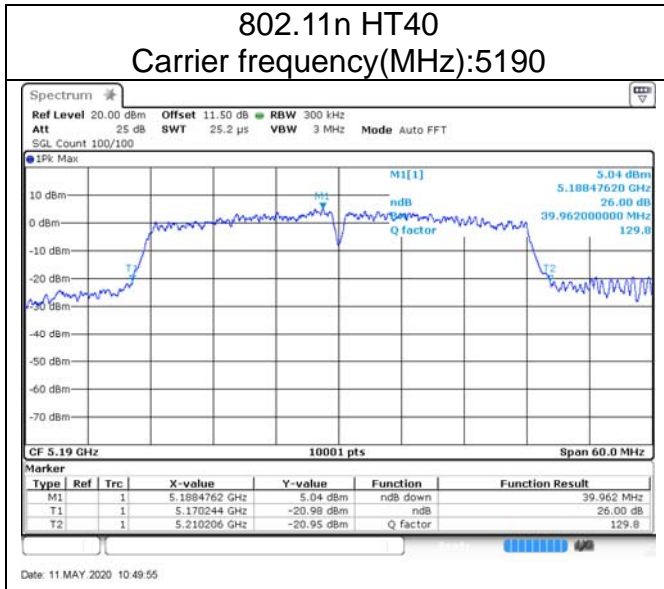
Carrier frequency (MHz)	Minimum 26dB Bandwidth(MHz)	Conclusion
5180	20.61	Pass
5200	20.16	Pass
5240	20.35	Pass
5745	19.16	Pass
5785	20.15	Pass
5825	19.65	Pass





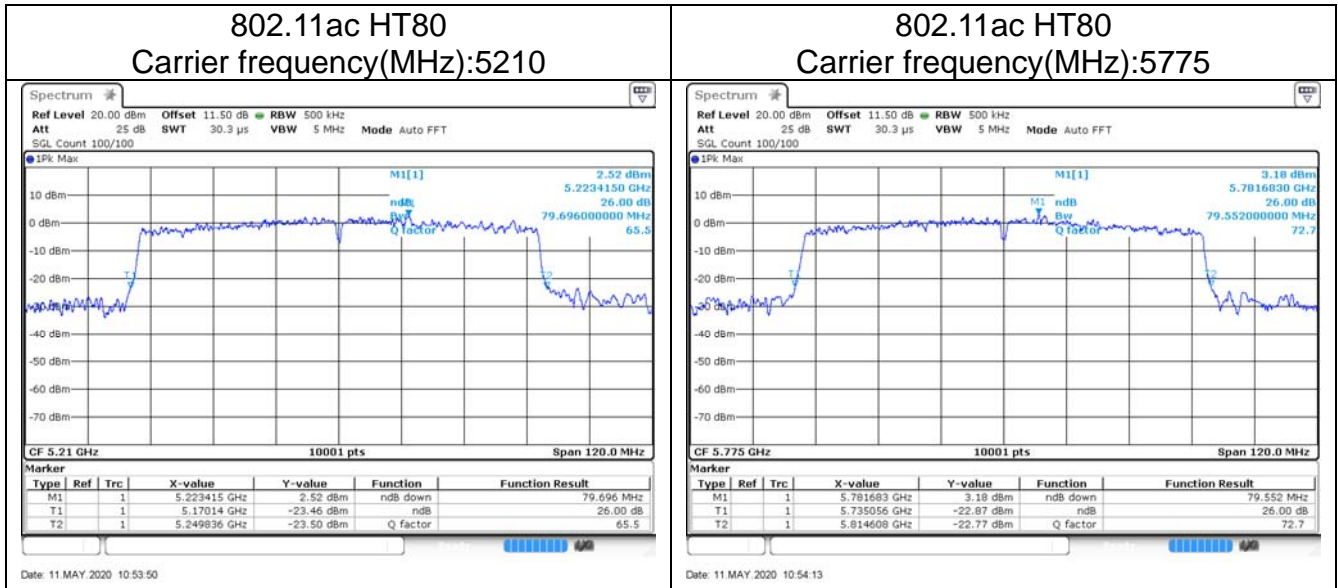
Test Mode: 802.11n HT40

Carrier frequency (MHz)	Minimum 26dB Bandwidth(MHz)	Conclusion
5190	39.96	Pass
5230	40.00	Pass
5755	39.68	Pass
5795	39.72	Pass



Test Mode: 802.11ac HT80

Carrier frequency (MHz)	Minimum 26dB Bandwidth(MHz)	Conclusion
5210	79.70	Pass
5775	79.55	Pass

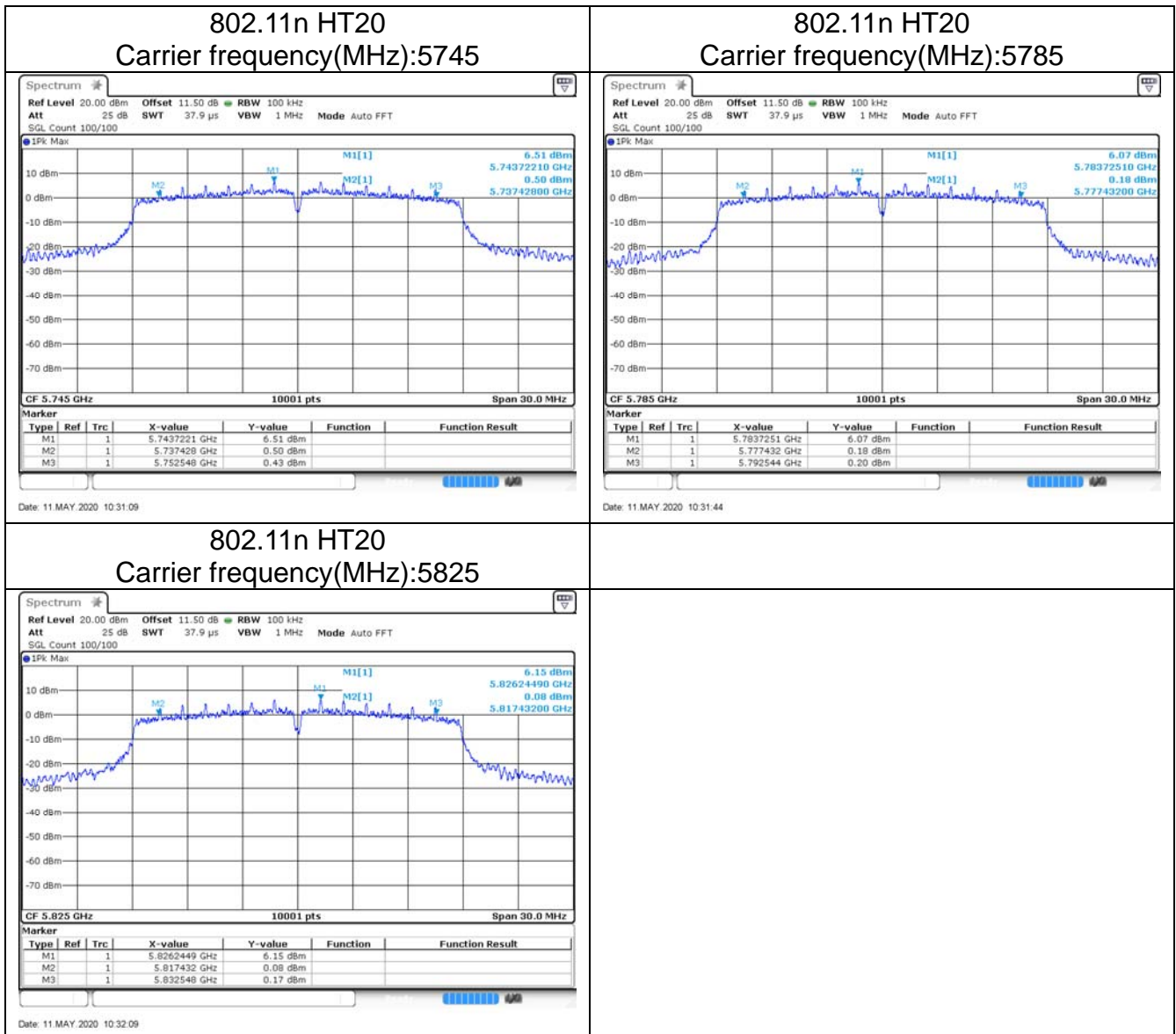


6dB Bandwidth

Offset 11.5dB = Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1.3dB

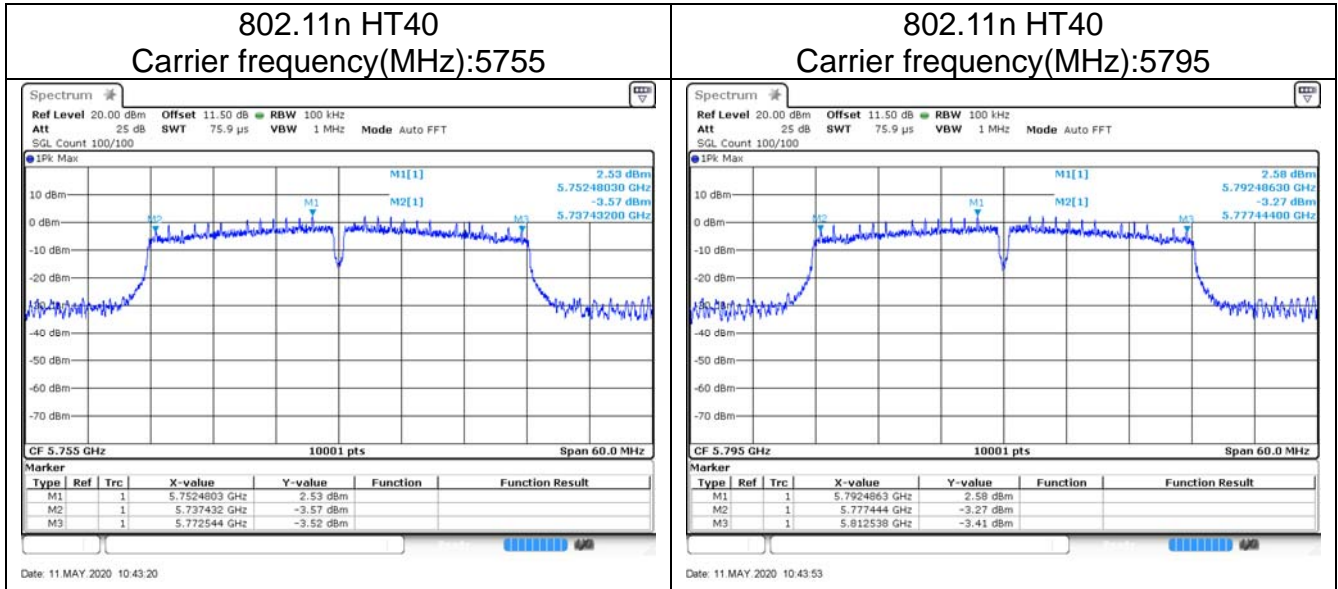
Test Mode: 802.11n HT20

Carrier frequency (MHz)	Minimum 6dB Bandwidth(MHz)	Conclusion
5745	15.12	Pass
5785	15.11	Pass
5825	15.12	Pass



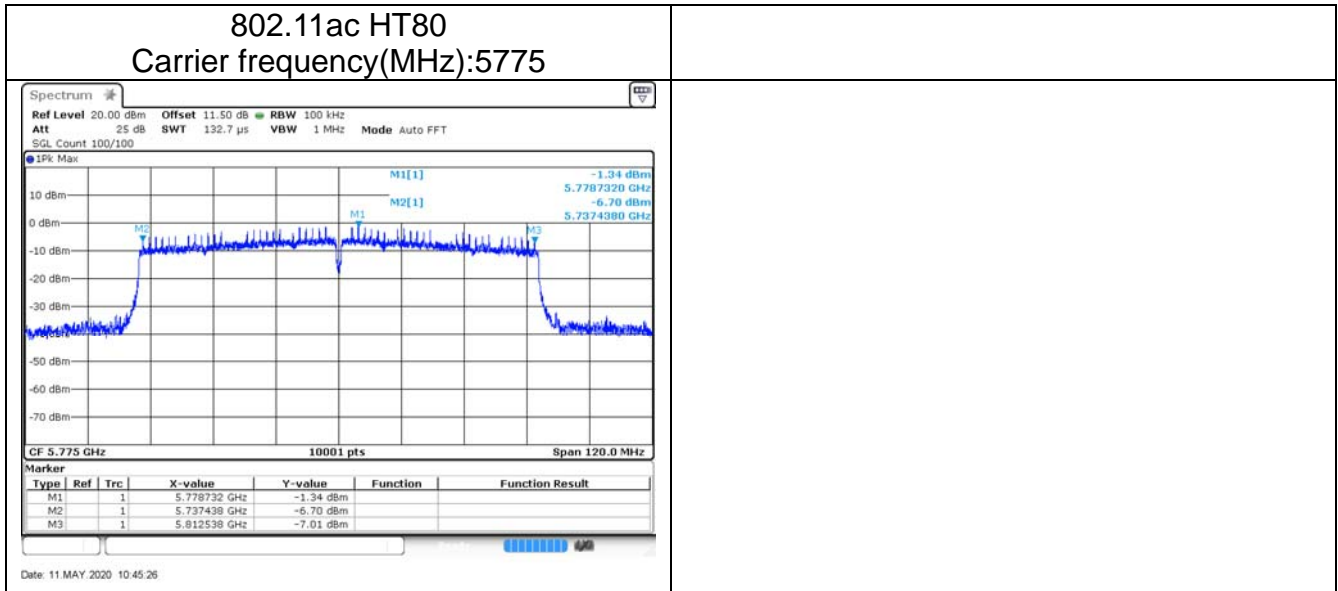
Test Mode: 802.11n HT40

Carrier frequency (MHz)	Minimum 6dB Bandwidth(MHz)	Conclusion
5755	35.11	Pass
5795	35.09	Pass



Test Mode: 802.11ac HT80

Carrier frequency (MHz)	Minimum 6dB Bandwidth(MHz)	Conclusion
5775	75.10	Pass

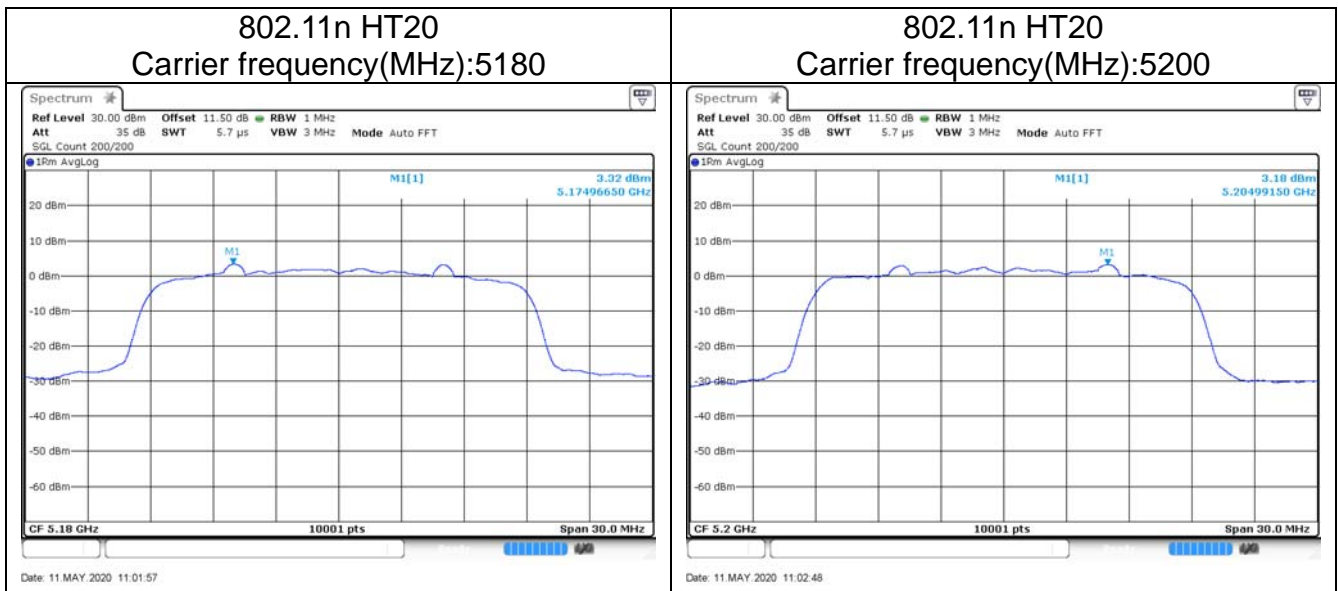


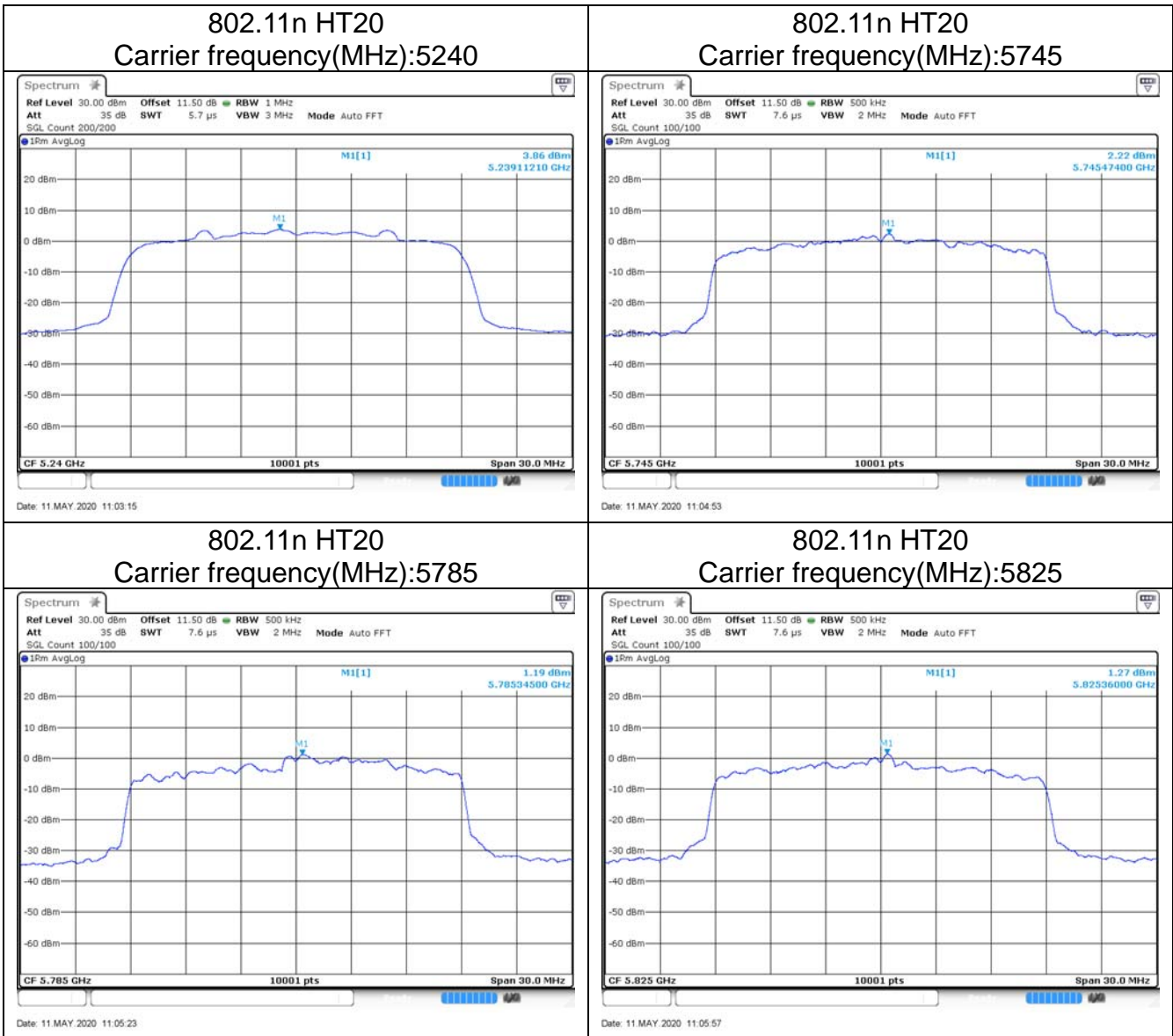
Transmitter Power Spectral Density

Offset 11.5dB = Attenuator 10dB+ Temporary antenna connector loss 0.2dB+ Cable loss 1.3dB

Test Mode: 802.11n HT20

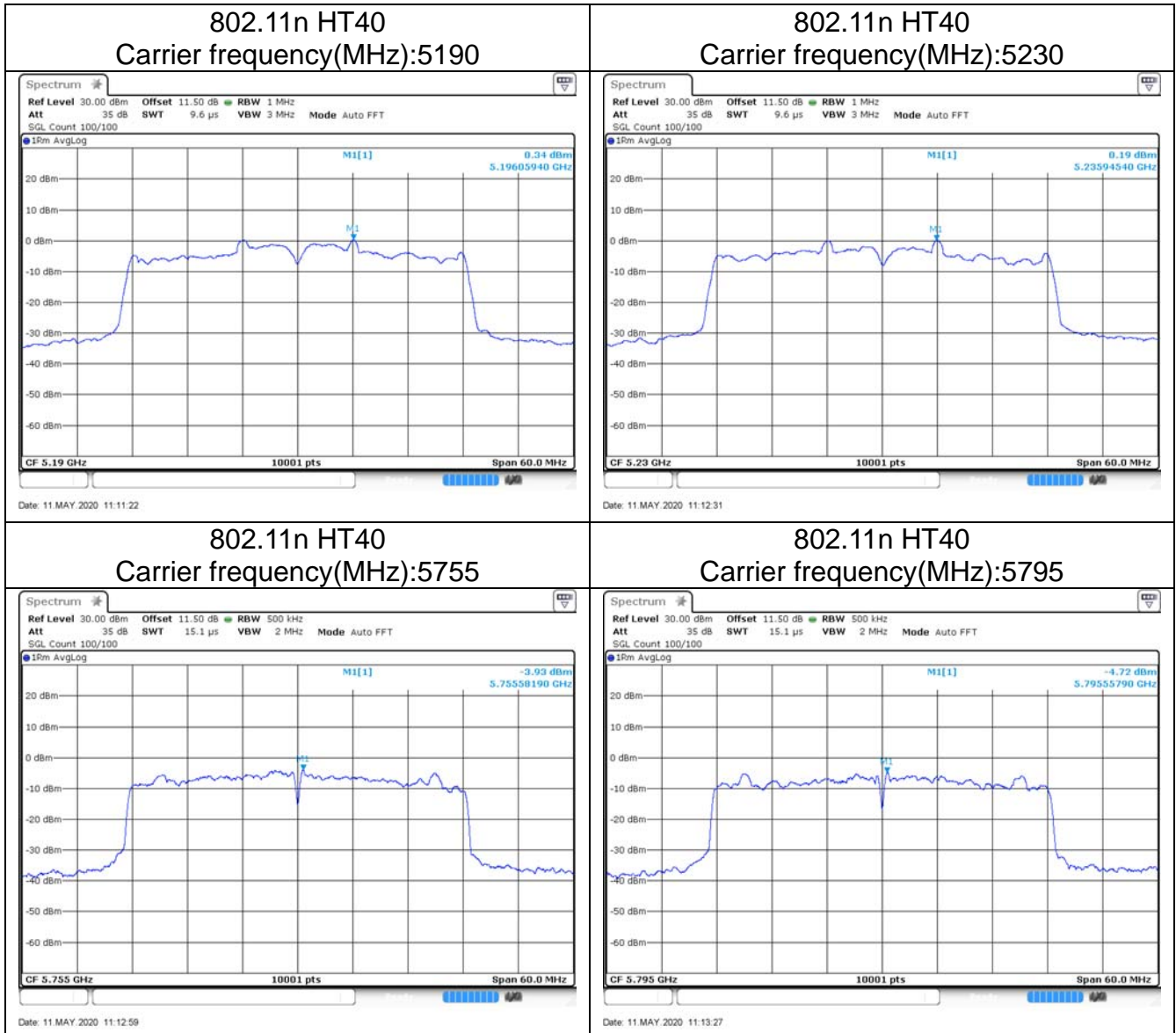
Carrier frequency (MHz)	Duty Cycle Correction Factor(dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Conclusion
5180	0.148	3.468	17.0 dBm/MHz	Pass
5200	0.148	3.328	17.0 dBm/MHz	Pass
5240	0.148	4.008	17.0 dBm/MHz	Pass
5745	0.148	2.368	30.0 dBm/500kHz	Pass
5785	0.148	1.338	30.0 dBm/500kHz	Pass
5825	0.148	1.418	30.0 dBm/500kHz	Pass





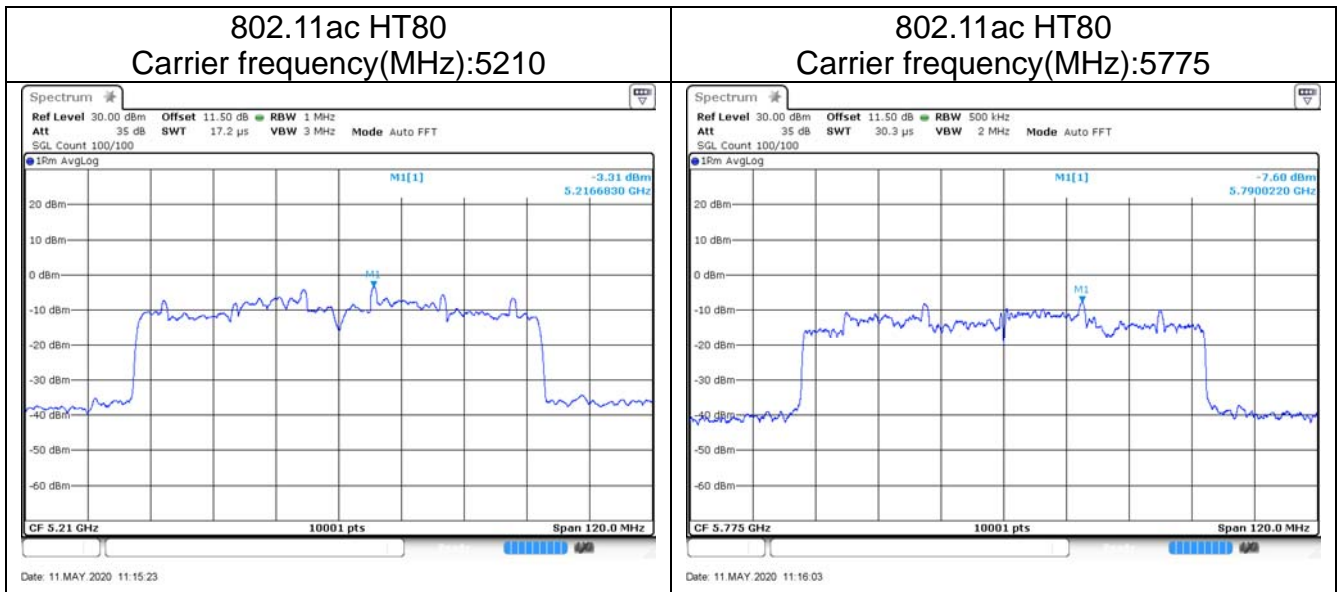
Test Mode: 802.11n HT40

Carrier frequency (MHz)	Duty Cycle Correction Factor(dB)	Power Spectral Density (dBm/MHz)	Limit (dBm/MHz)	Conclusion
5190	0.291	0.631	17.0 dBm/MHz	Pass
5230	0.291	0.481	17.0 dBm/MHz	Pass
5755	0.291	-3.639	30.0 dBm/500kHz	Pass
5795	0.291	-4.429	30.0 dBm/500kHz	Pass



Test Mode: 802.11ac HT80

Carrier frequency (MHz)	Duty Cycle Correction Factor(dB)	Power Spectral Density (dBm/MHz)	Limit	Conclusion
5210	0.566	-2.744	17.0 dBm/MHz	Pass
5775	0.566	-7.034	30.0 dBm/500kHz	Pass



Frequency Stability

U-NII-1

Mod.	Data Rate	Frequency (MHz)	Frequency Stability(ppm)	Voltage(V)	Temperature(°C)
11n HT20	MCS0	5180	-8.30	NV	-10
11n HT20	MCS0	5180	-1.16	NV	0
11n HT20	MCS0	5180	-3.09	NV	+10
11n HT20	MCS0	5180	-4.25	HV	+20
11n HT20	MCS0	5180	-5.21	LV	+20
11n HT20	MCS0	5180	0.00	NV	+20
11n HT20	MCS0	5180	-5.98	NV	+30
11n HT20	MCS0	5180	-8.30	NV	+40
11n HT20	MCS0	5180	-6.85	NV	+50
11n HT20	MCS0	5180	-3.67	NV	+55

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Mod.	Data Rate	Frequency (MHz)	Frequency Stability(ppm)	Voltage(V)	Temperature(°C)
11n HT20	MCS0	5825	-5.24	NV	-10
11n HT20	MCS0	5825	0.69	NV	0
11n HT20	MCS0	5825	0.86	NV	+10
11n HT20	MCS0	5825	-1.45	HV	+20
11n HT20	MCS0	5825	-2.13	LV	+20
11n HT20	MCS0	5825	0.00	NV	+20
11n HT20	MCS0	5825	-1.37	NV	+30
11n HT20	MCS0	5825	-4.98	NV	+40
11n HT20	MCS0	5825	-4.46	NV	+50
11n HT20	MCS0	5825	-3.43	NV	+55