

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Output Power UNII-2C

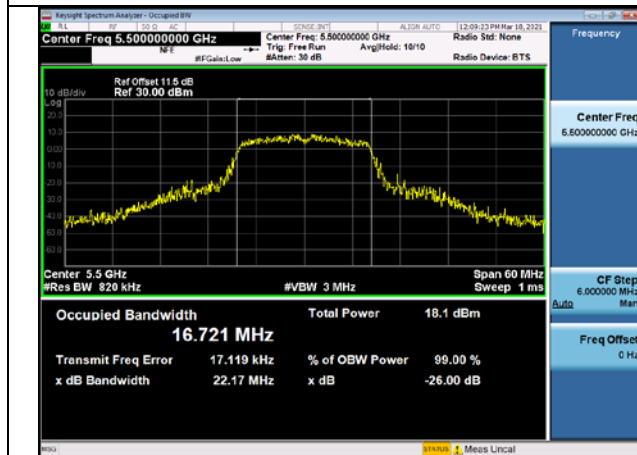
Mode	Freq (MHz)	Chain	Conducted average power output(dBm)
802.11a	5500	Chain0	14.96
		Chain1	15.66
	5580	Chain0	14.19
		Chain1	15.92
	5700	Chain0	14.18
		Chain1	15.51
802.11n20M	5500	Chain0	14.01
		Chain1	14.46
		Chain0+Chain1	17.25
	5580	Chain0	12.99
		Chain1	14.74
		Chain0+Chain1	16.96
	5700	Chain0	13.14
		Chain1	15.47
		Chain0+Chain1	17.47
802.11n40M	5510	Chain0	13.40
		Chain1	14.17
		Chain0+Chain1	16.81
	5590	Chain0	13.07
		Chain1	14.32
		Chain0+Chain1	16.75
	5670	Chain0	12.72
		Chain1	14.25
		Chain0+Chain1	16.56

Emission Bandwidth

Offset 11.5dB =Attenuator 10dB+ Temporary antenna connector loss 0.5dB+ Cable loss 1dB
Test Mode:802.11a

Carrier frequency (MHz)	Chain	26dB Bandwidth (MHz)
5500	Chain0	22.17
	Chain1	19.59
5580	Chain0	20.38
	Chain1	19.99
5700	Chain0	20.51
	Chain1	21.82

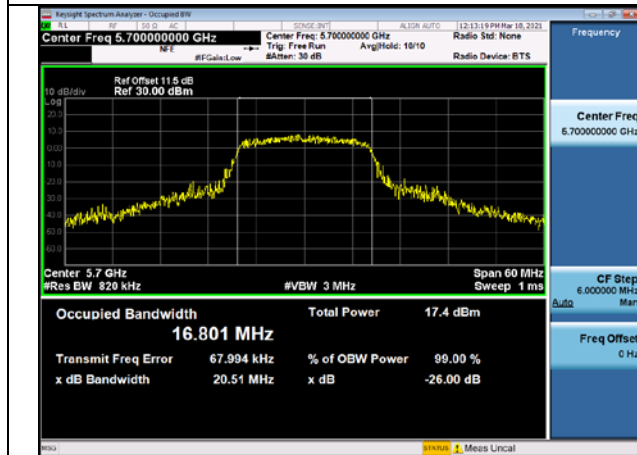
Test Mode:802.11a Chain0



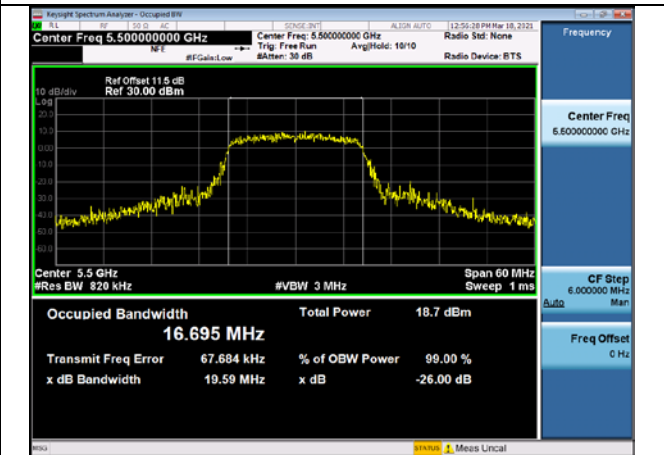
Test Mode:802.11a Chain0



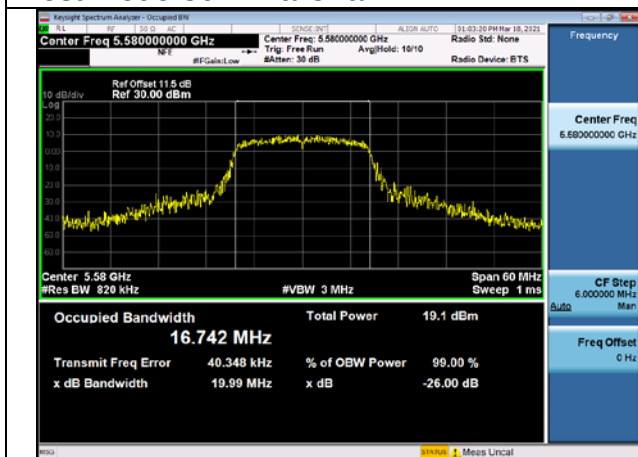
Test Mode:802.11a Chain0



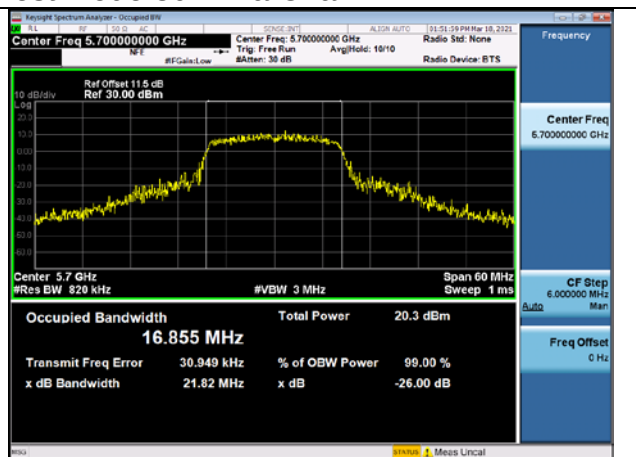
Test Mode:802.11a Chain1



Test Mode:802.11a Chain1



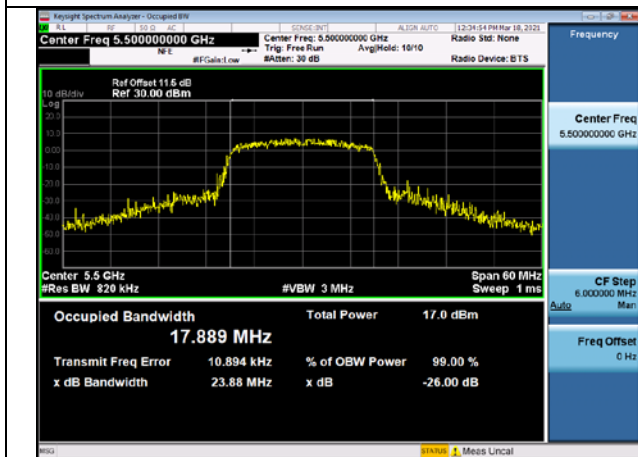
Test Mode:802.11a Chain1



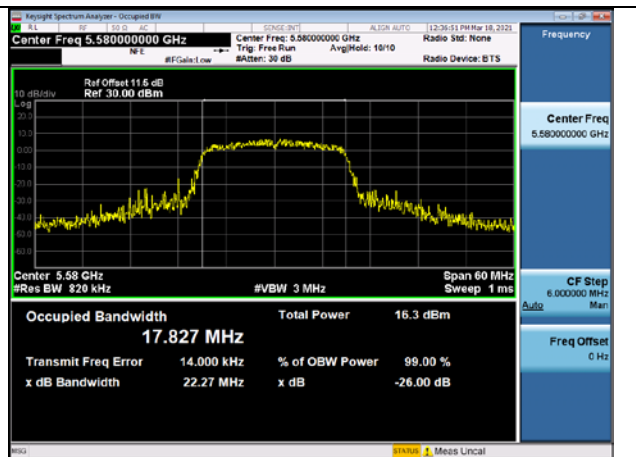
Test Mode:802.11n HT20

Carrier frequency (MHz)	Chain	26dB Bandwidth (MHz)
5500	Chain0	23.88
	Chain1	20.34
5580	Chain0	22.27
	Chain1	21.39
5700	Chain0	20.60
	Chain1	20.64

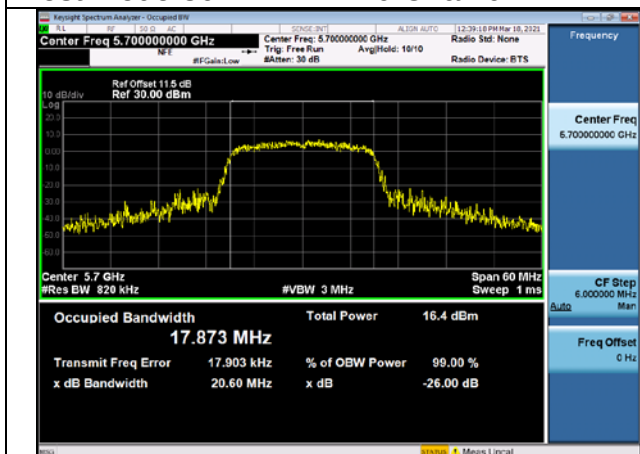
Test Mode:802.11n HT20 Chain0



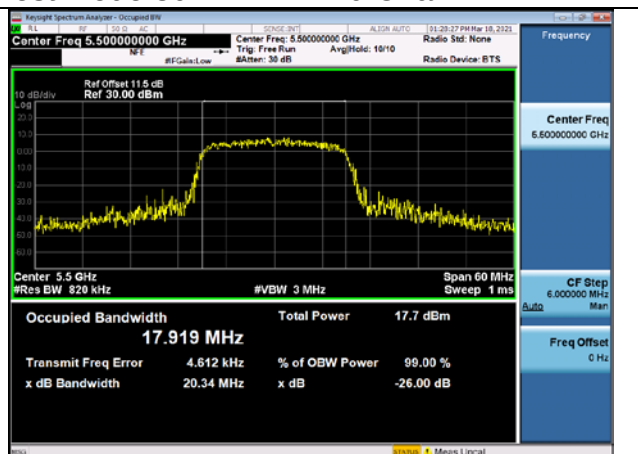
Test Mode:802.11n HT20 Chain0



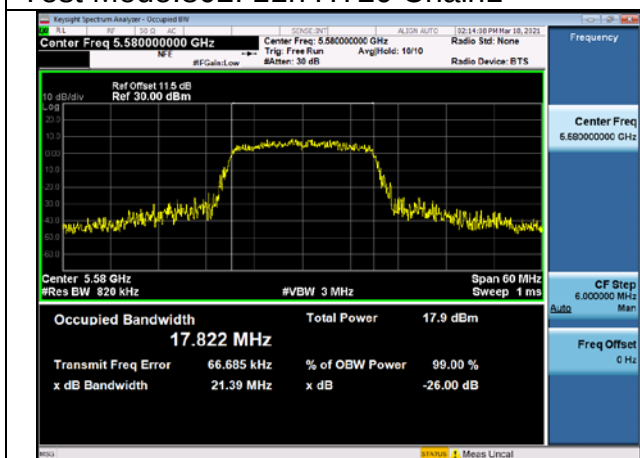
Test Mode:802. 11n HT20 Chain0



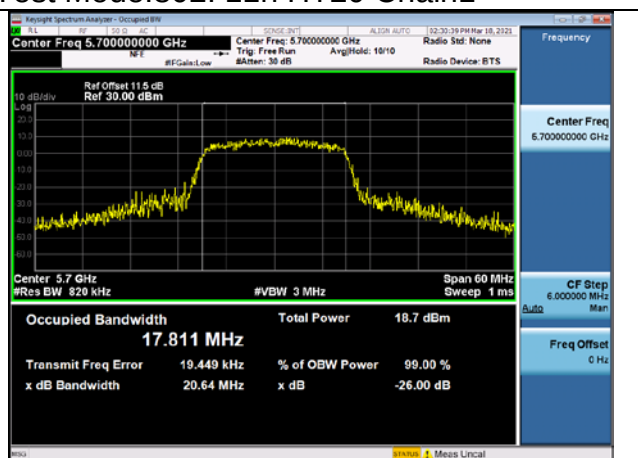
Test Mode:802. 11n HT20 Chain1



Test Mode:802. 11n HT20 Chain1



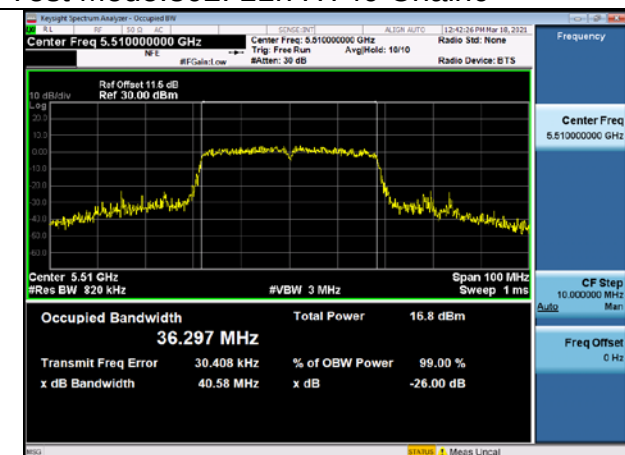
Test Mode:802. 11n HT20 Chain1



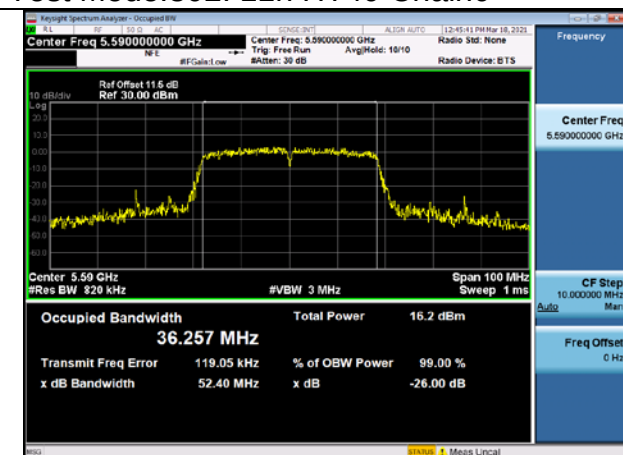
Test Mode:802. 11n HT40

Carrier frequency (MHz)	Chain	26dB Bandwidth (MHz)
5510	Chain0	40.58
	Chain1	40.42
5590	Chain0	52.40
	Chain1	40.74
5670	Chain0	40.39
	Chain1	40.38

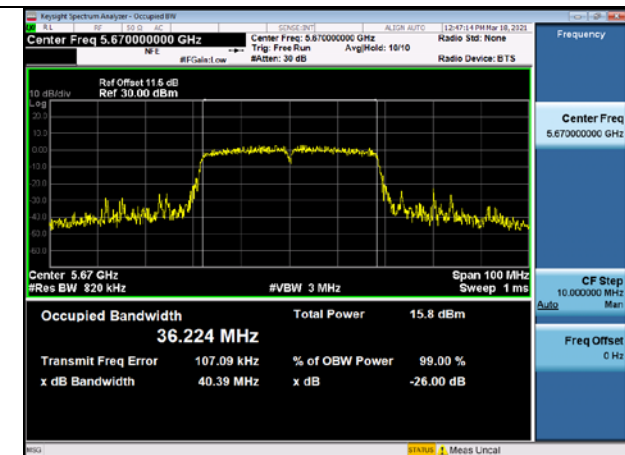
Test Mode:802. 11n HT40 Chain0



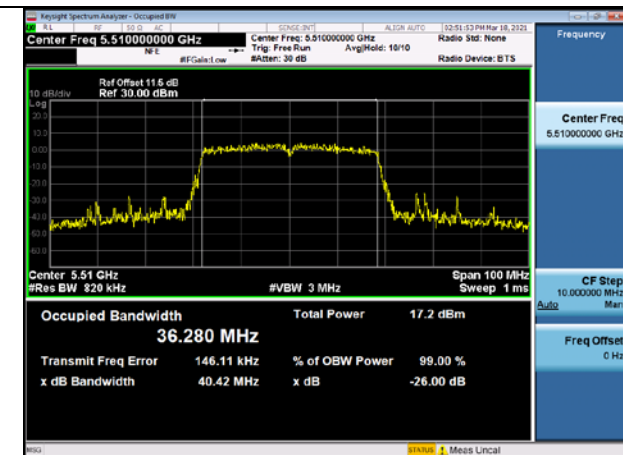
Test Mode:802. 11n HT40 Chain0



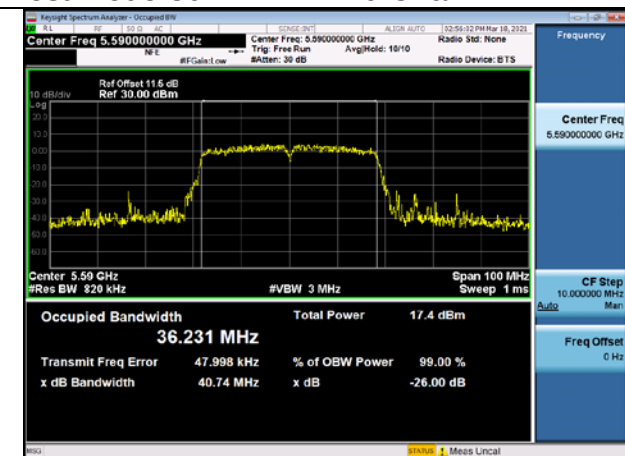
Test Mode:802. 11n HT40 Chain0



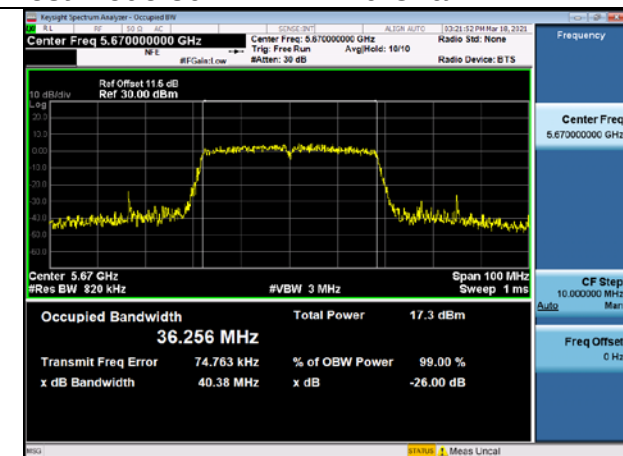
Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1



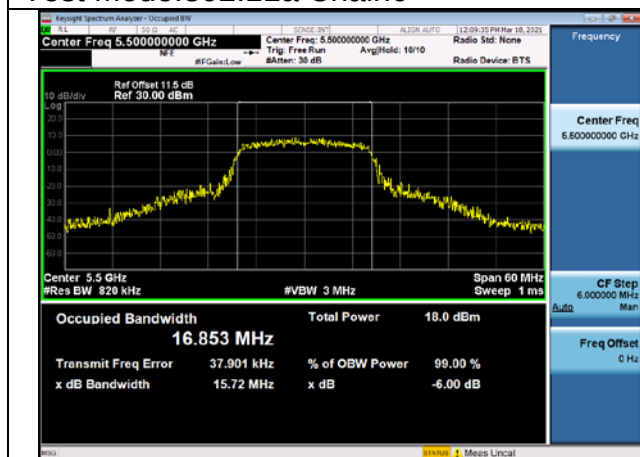
Occupied Bandwidth

Offset 11.5dB =Attenuator 10dB+ Temporary antenna connector loss 0.5dB+ Cable loss 1dB

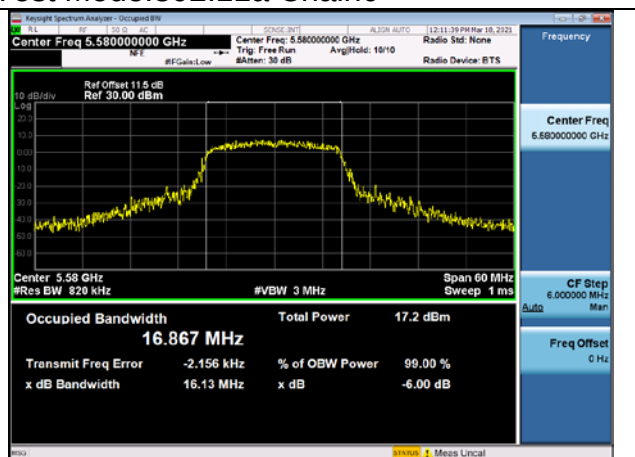
Test Mode:802.11a

Carrier frequency (MHz)	Chain	Occupied Bandwidth (MHz)
5500	Chain0	16.853
	Chain1	16.812
5580	Chain0	16.867
	Chain1	16.942
5700	Chain0	16.804
	Chain1	16.879

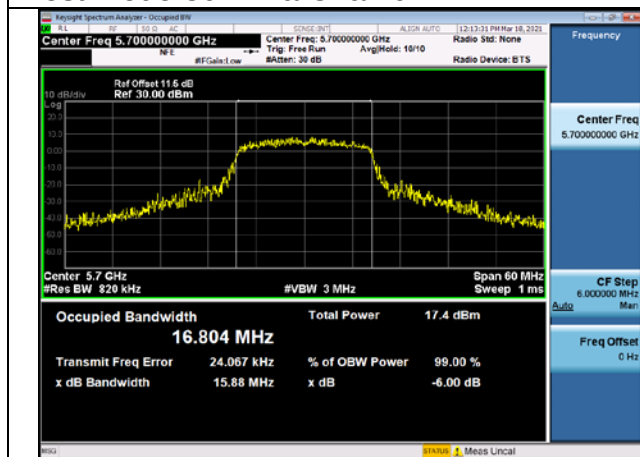
Test Mode:802.11a Chain0



Test Mode:802.11a Chain0



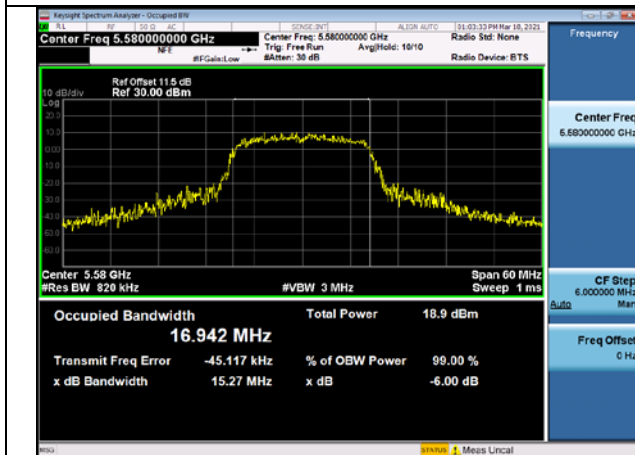
Test Mode:802.11a Chain0



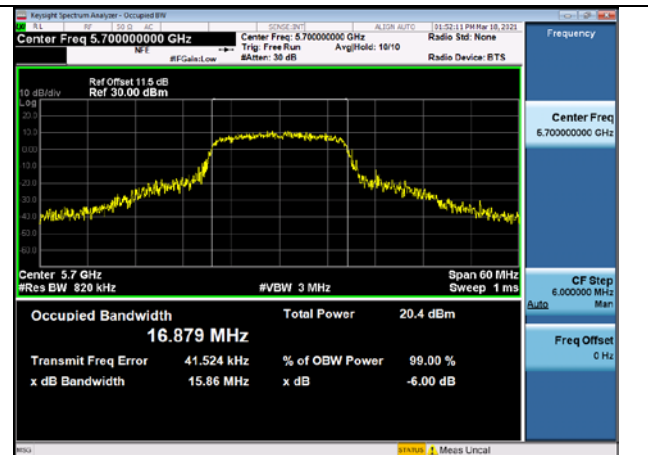
Test Mode:802.11a Chain1



Test Mode:802.11a Chain1



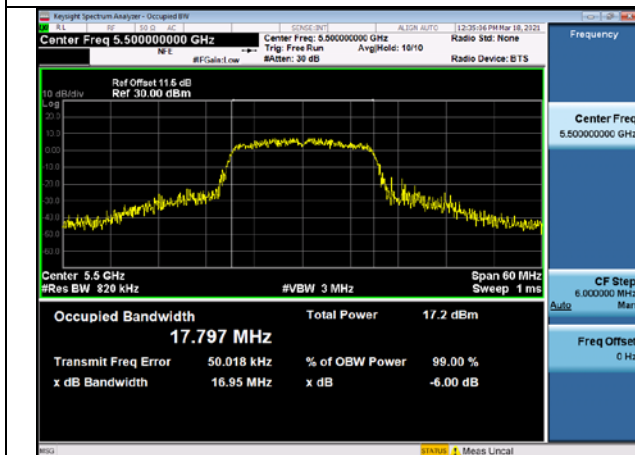
Test Mode:802.11a Chain1



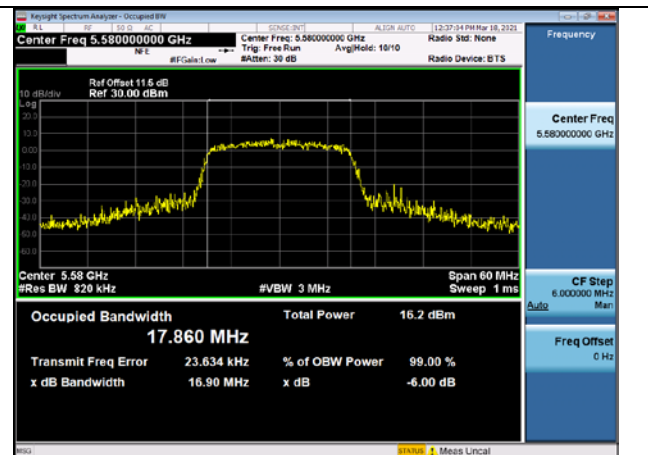
Test Mode:802.11n HT20

Carrier frequency (MHz)	Chain	Occupied Bandwidth (MHz)
5500	Chain0	17.797
	Chain1	17.887
5580	Chain0	17.860
	Chain1	17.881
5700	Chain0	17.797
	Chain1	17.854

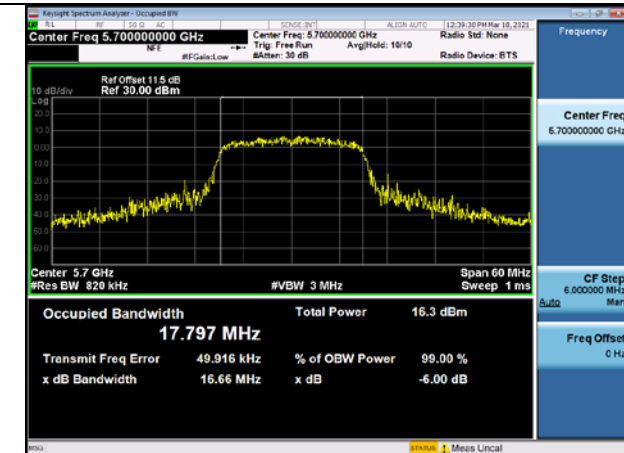
Test Mode:802.11n HT20 Chain0



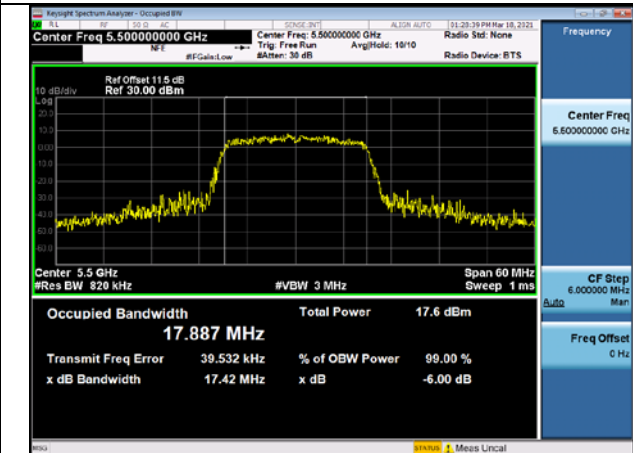
Test Mode:802.11n HT20 Chain0



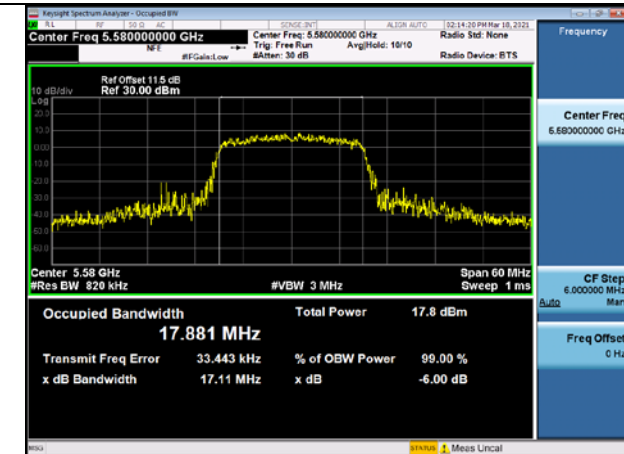
Test Mode:802. 11n HT20 Chain0



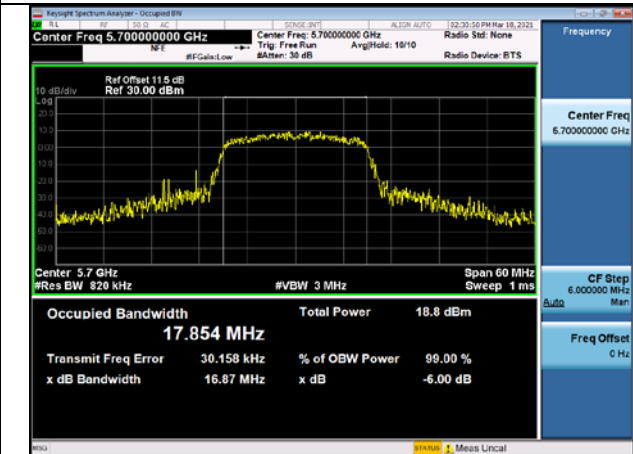
Test Mode:802. 11n HT20 Chain1



Test Mode:802. 11n HT20 Chain1



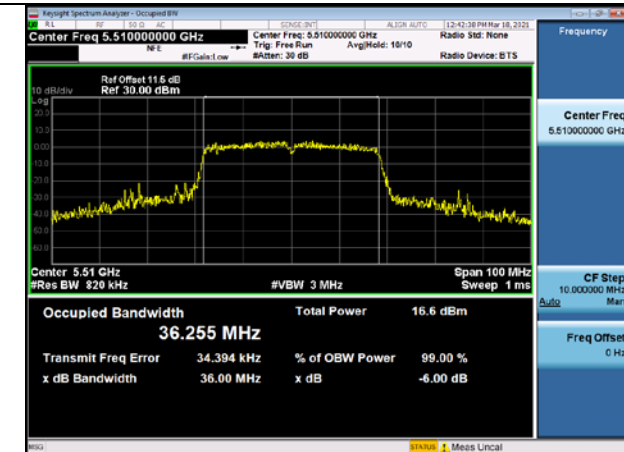
Test Mode:802. 11n HT20 Chain1



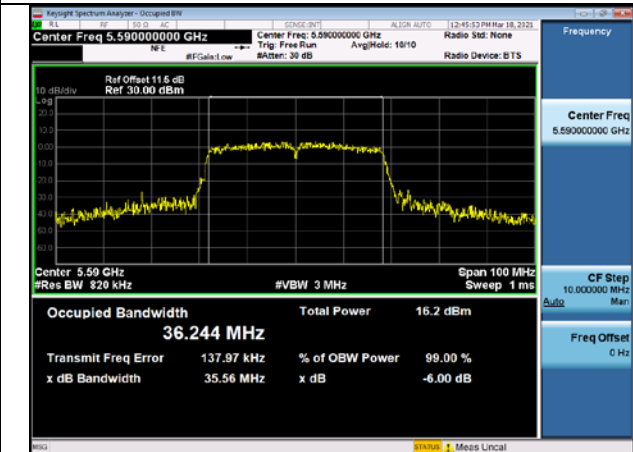
Test Mode:802. 11n HT40

Carrier frequency (MHz)	Chain	Occupied Bandwidth (MHz)
5510	Chain0	36.255
	Chain1	36.319
5590	Chain0	36.244
	Chain1	36.242
5670	Chain0	36.363
	Chain1	36.201

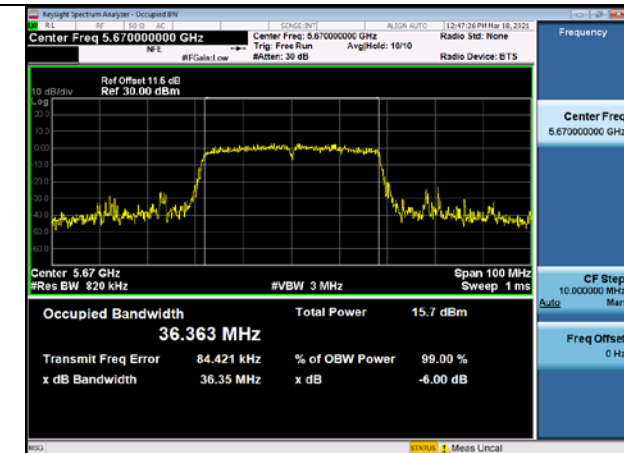
Test Mode:802. 11n HT40 Chain0



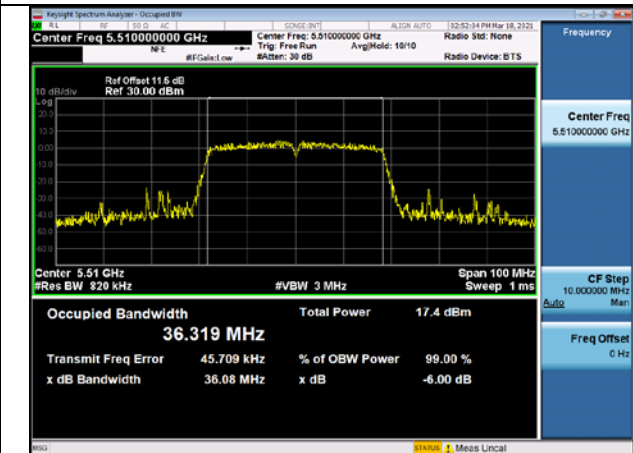
Test Mode:802. 11n HT40 Chain0



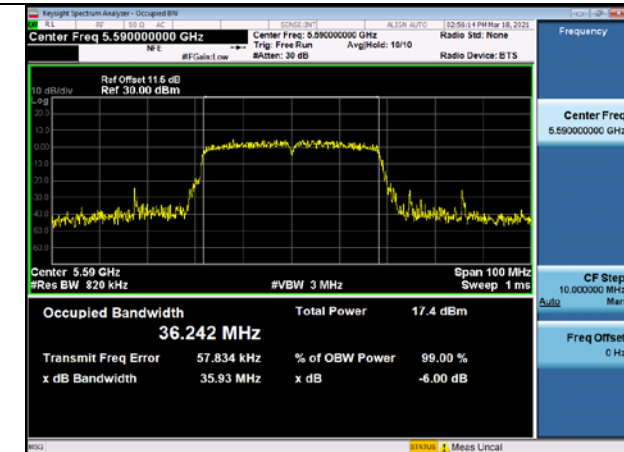
Test Mode:802. 11n HT40 Chain0



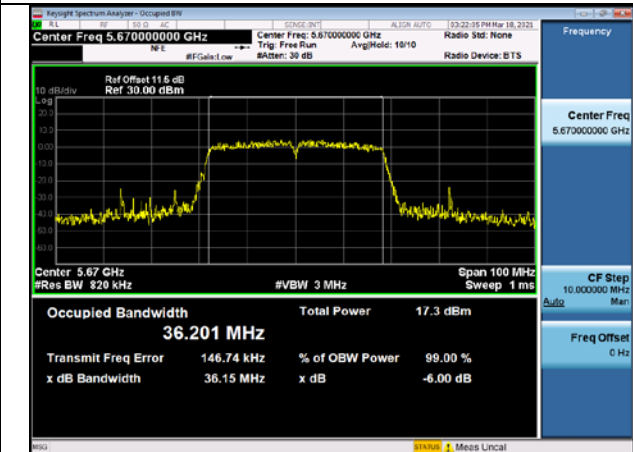
Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1

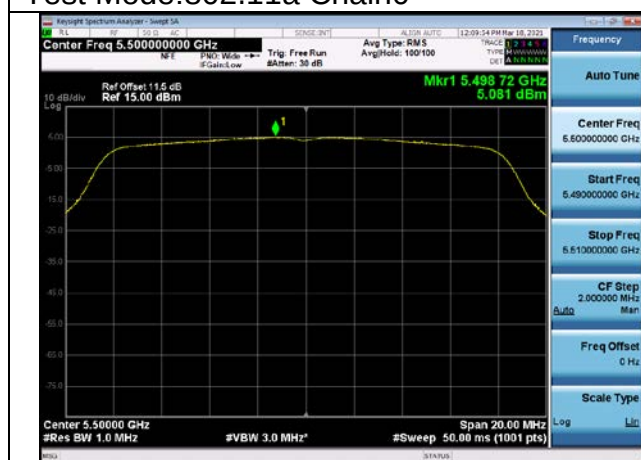


Transmitter Power Spectral Density

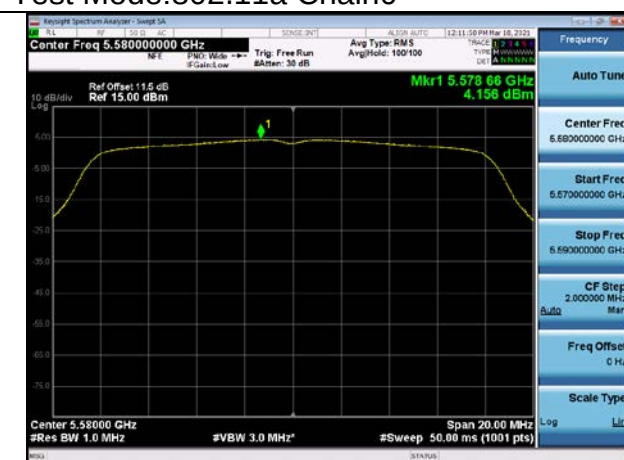
Offset 11.5dB =Attenuator 10dB+ Temporary antenna connector loss 0.5dB+ Cable loss 1dB
Test Mode:802.11a

Carrier frequency (MHz)	Correction Factor(dB)	Chain	Power Density (dBm)
5500	0.05	Chain0	5.122
		Chain1	5.747
5580		Chain0	4.197
		Chain1	5.885
5700		Chain0	4.535
		Chain1	7.717

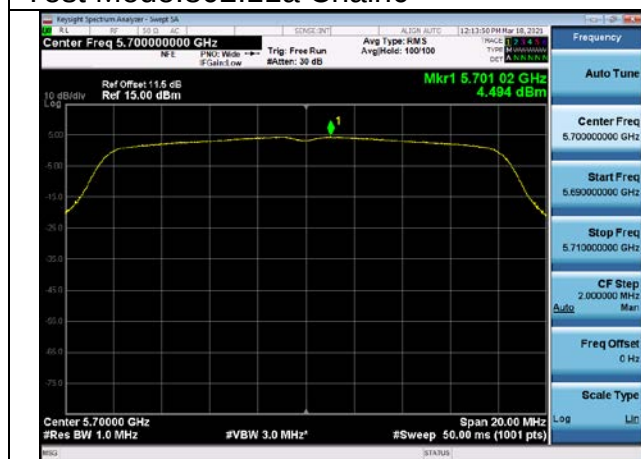
Test Mode:802.11a Chain0



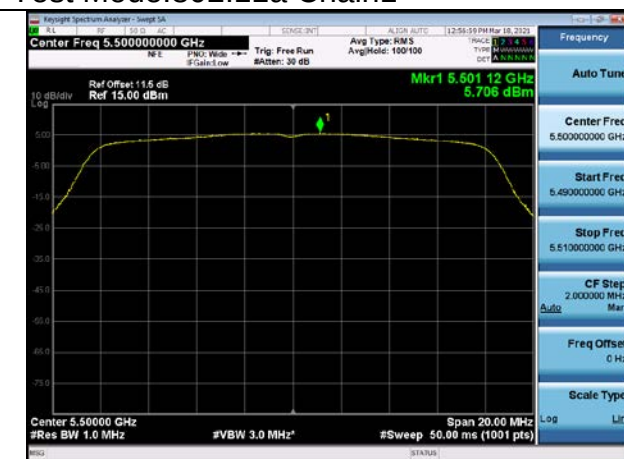
Test Mode:802.11a Chain0



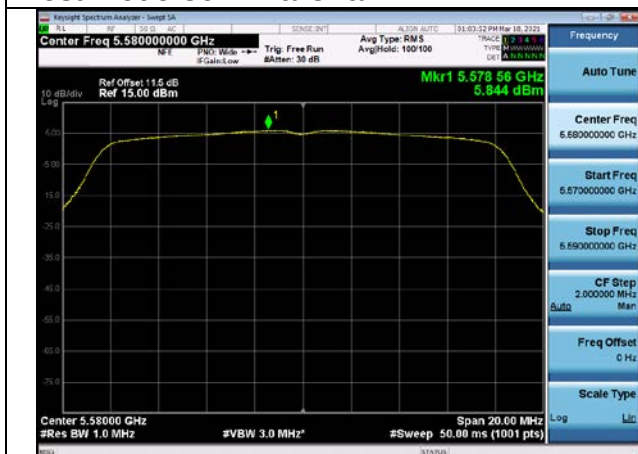
Test Mode:802.11a Chain0



Test Mode:802.11a Chain1



Test Mode:802.11a Chain1



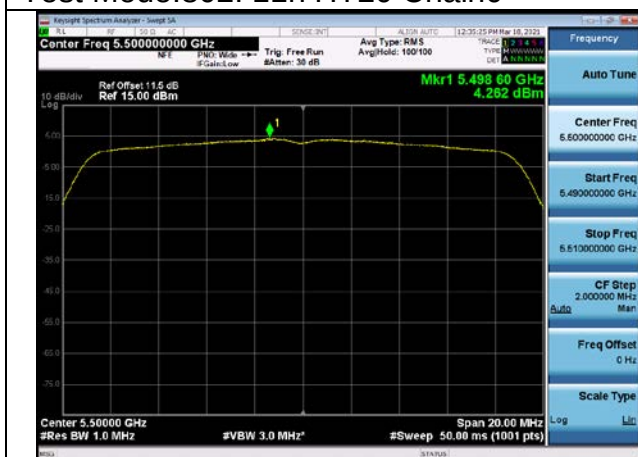
Test Mode:802.11a Chain1



Test Mode:802.11n HT20

Carrier frequency (MHz)	Correction Factor(dB)	Chain	Power Density (dBm)
5500	0.06	Chain0	4.313
		Chain1	4.801
		Chain0+Chain1	7.574
5580		Chain0	3.415
		Chain1	5.002
		Chain0+Chain1	7.291
5700		Chain0	3.525
		Chain1	5.586
		Chain0+Chain1	7.687

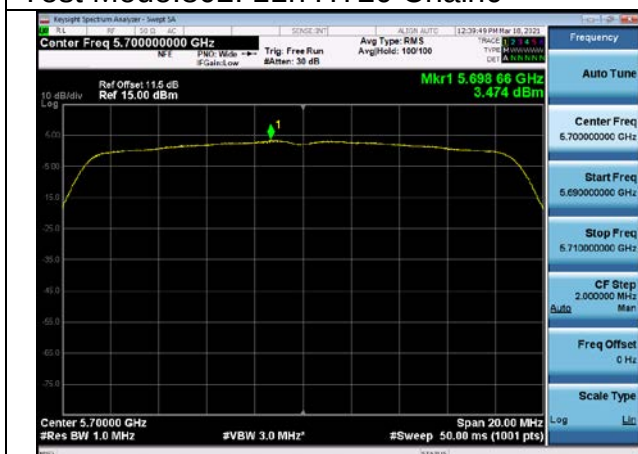
Test Mode:802.11n HT20 Chain0



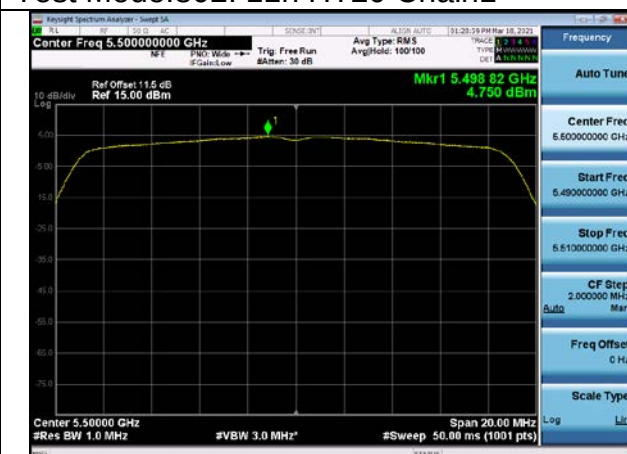
Test Mode:802.11n HT20 Chain0



Test Mode:802. 11n HT20 Chain0



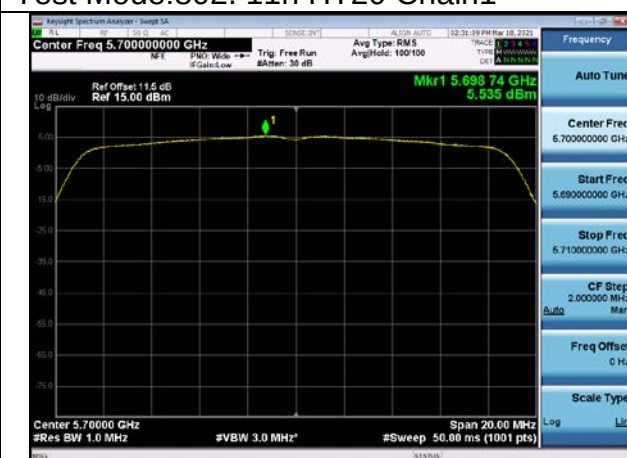
Test Mode:802. 11n HT20 Chain1



Test Mode:802. 11n HT20 Chain1



Test Mode:802. 11n HT20 Chain1



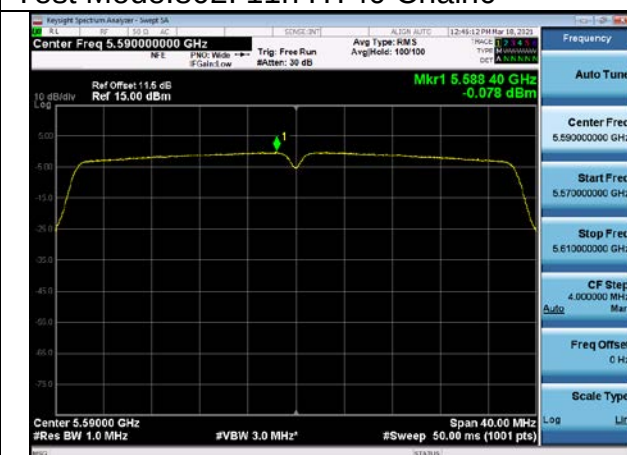
Test Mode:802. 11n HT40

Carrier frequency (MHz)	Correction Factor(dB)	Chain	Power Density (dBm)
5510	0.10	Chain0	0.242
		Chain1	0.954
		Chain0+Chain1	3.623
5590		Chain0	0.013
		Chain1	1.092
		Chain0+Chain1	3.596
5670		Chain0	-0.426
		Chain1	1.006
		Chain0+Chain1	3.359

Test Mode:802. 11n HT40 Chain0



Test Mode:802. 11n HT40 Chain0



Test Mode:802. 11n HT40 Chain0



Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1



Test Mode:802. 11n HT40 Chain1



Frequency Stability UNII-2C

Mode	Data Rate	Chain	Center Frequency (MHz)	Measured Frequency (MHz)	Frequency Stability (ppm)	Voltage (V)	Temperature (°C)
802.11a	6Mbps	Chain0	5500	5499.901995	-17.82	NV	-10
			5500	5500.056334	10.24	NV	0
			5500	5499.988857	-2.03	NV	+10
			5500	5500.038652	7.03	NV	+20
			5500	5500.049720	9.04	HV	+20
			5500	5500.016783	3.05	LV	+20
			5500	5499.908217	-16.69	NV	+30
			5500	5500.097231	17.68	NV	+40
			5500	5499.925901	-13.47	NV	+50
			5500	5500.073670	13.39	NV	+60
		Chain1	5500	5499.957059	-7.81	NV	+70
			5500	5500.050036	9.10	NV	-10
			5500	5500.004979	0.91	NV	0
			5500	5499.992760	-1.32	NV	+10
			5500	5500.016109	2.93	HV	+20
			5500	5499.904740	-17.32	LV	+20
			5500	5500.084413	15.35	NV	+20
			5500	5500.078659	14.30	NV	+30
			5500	5499.963423	-6.65	NV	+40
			5500	5500.061760	11.23	NV	+50
			5500	5500.032444	5.90	NV	+60
			5500	5500.040370	7.34	NV	+70

Dynamic Frequency Selection

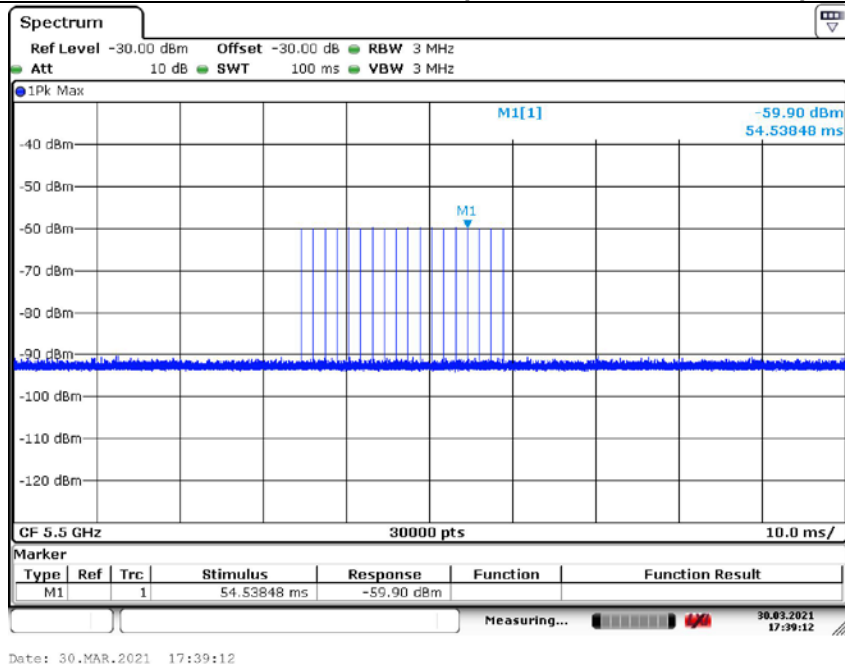
DESCRIPTION OF Master Device

The Master Device is a SKSpruce Technologies Co., Ltd., Indoor Access Point, FCC ID: 2AHKT-WIA3300-20. The rated output power of the Master unit is > 23dBm (EIRP). Therefore the required interference threshold level is -60 dBm.

Radar Waveform Calibration Result

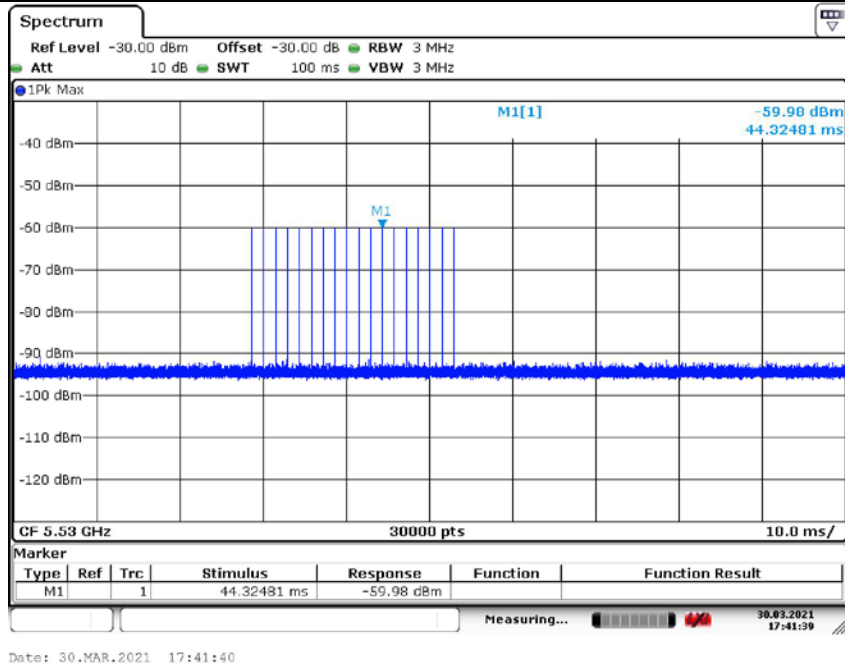
<20MHz / 5500 MHz> Radar Type 0

Radar / DFS detection threshold level and the burst of pulses on the Channel frequency

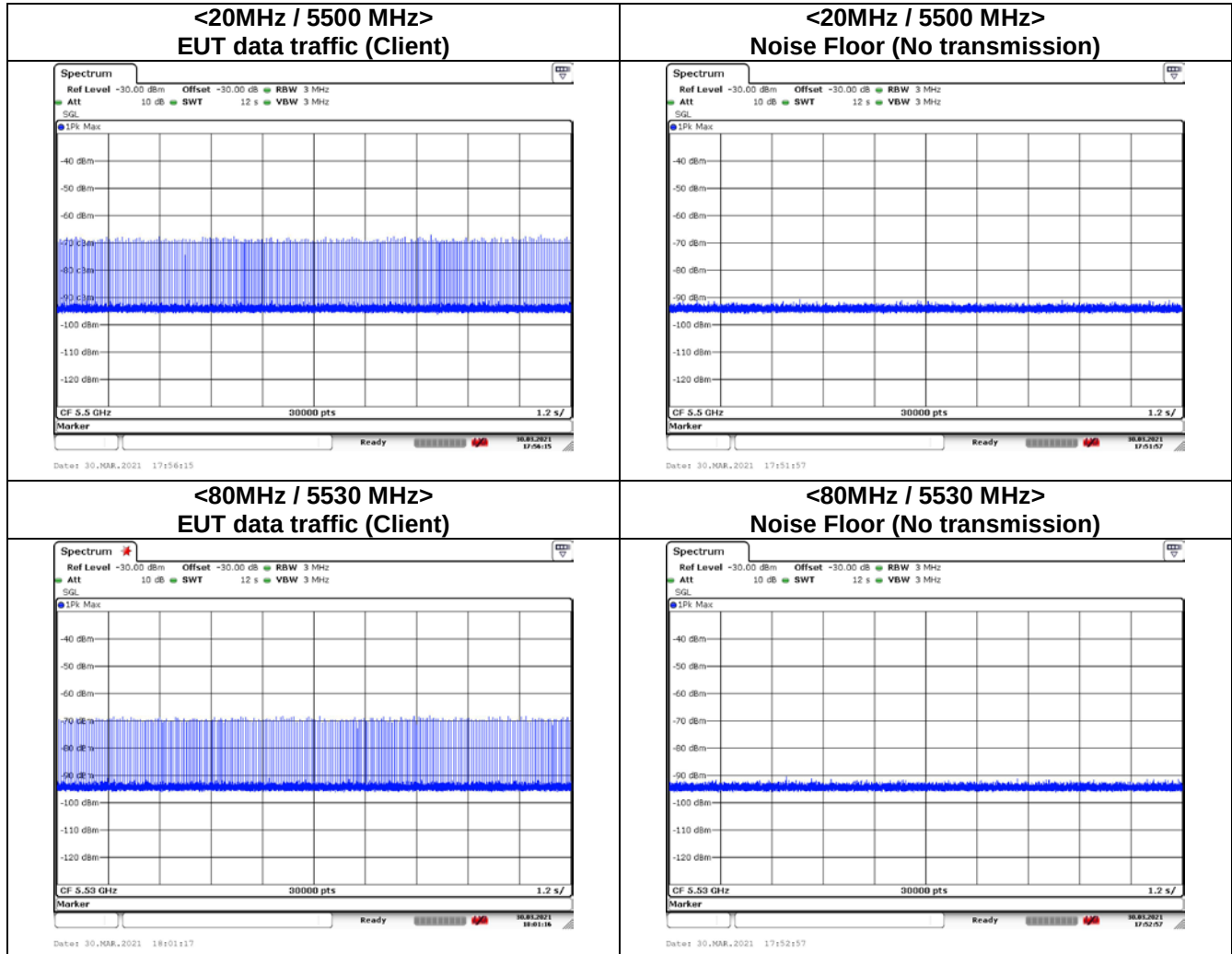


<80MHz / 5530 MHz> Radar Type 0

Radar / DFS detection threshold level and the burst of pulses on the Channel frequency



Data Traffic and Noise Floor Plots



Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test

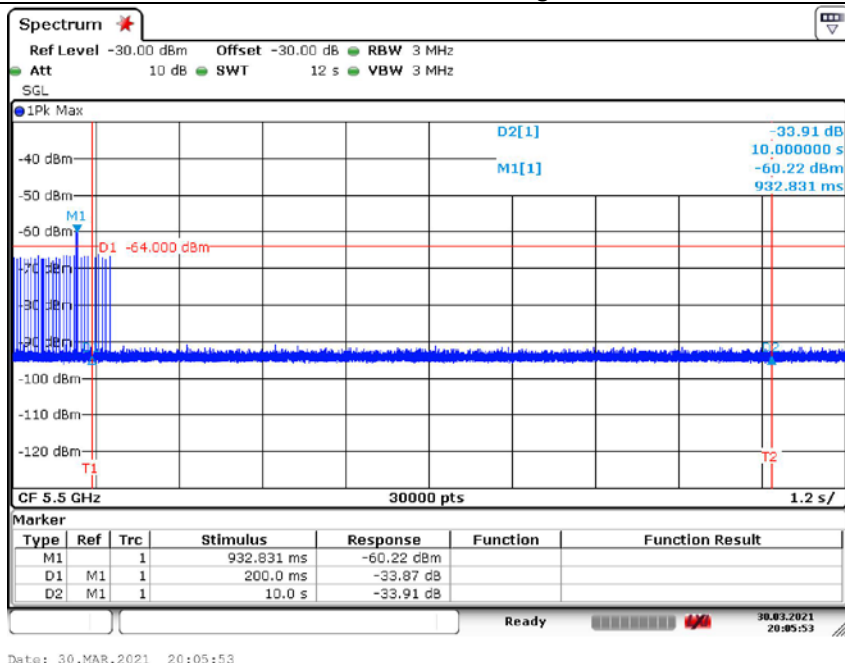
Frequency	Test Item	Test Result	Limit	Pass/Fail
5500MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	200ms +4ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass
5530MHz	Channel Move Time	< 10s*	< 10s	Pass
	Channel Closing Transmission Time	200ms +2.4ms	< 260ms	Pass
	Non-Occupancy Period	≥ 30	≥ 30 min	Pass

Note*: We notice clearly that “Channel Move Time” is less than 10s from the figure. The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

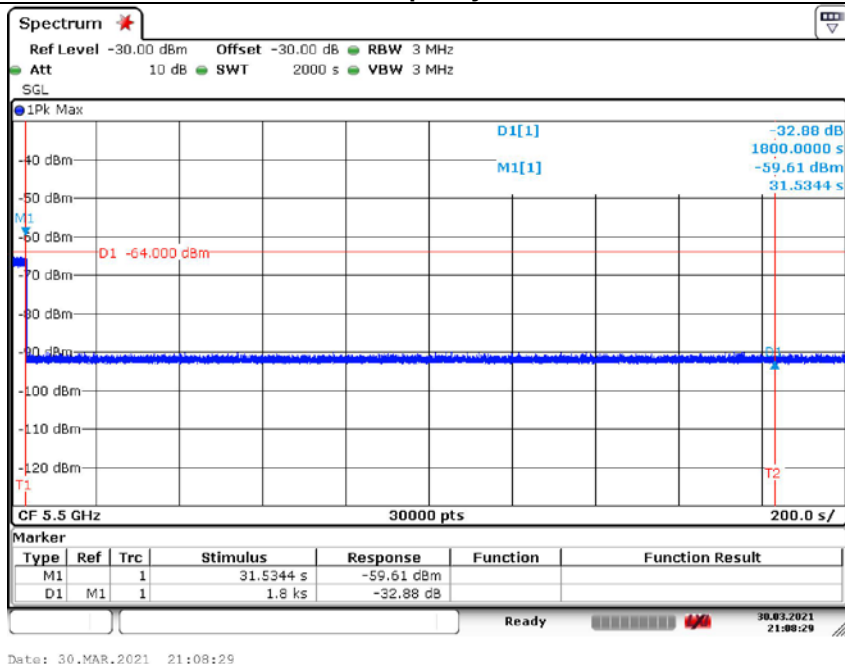
Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period for Client Beacon Test Plots

<20MHz / 5500 MHz>

Channel Move Time & Channel Closing Transmission Time



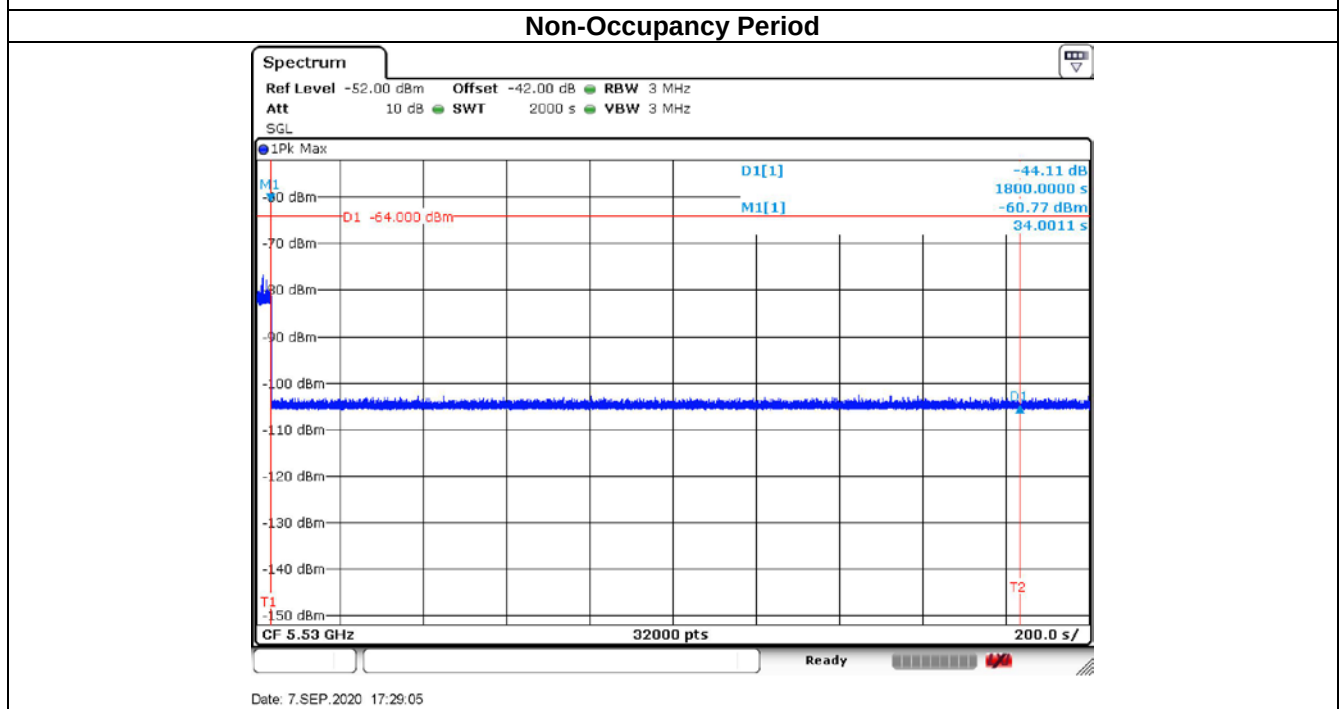
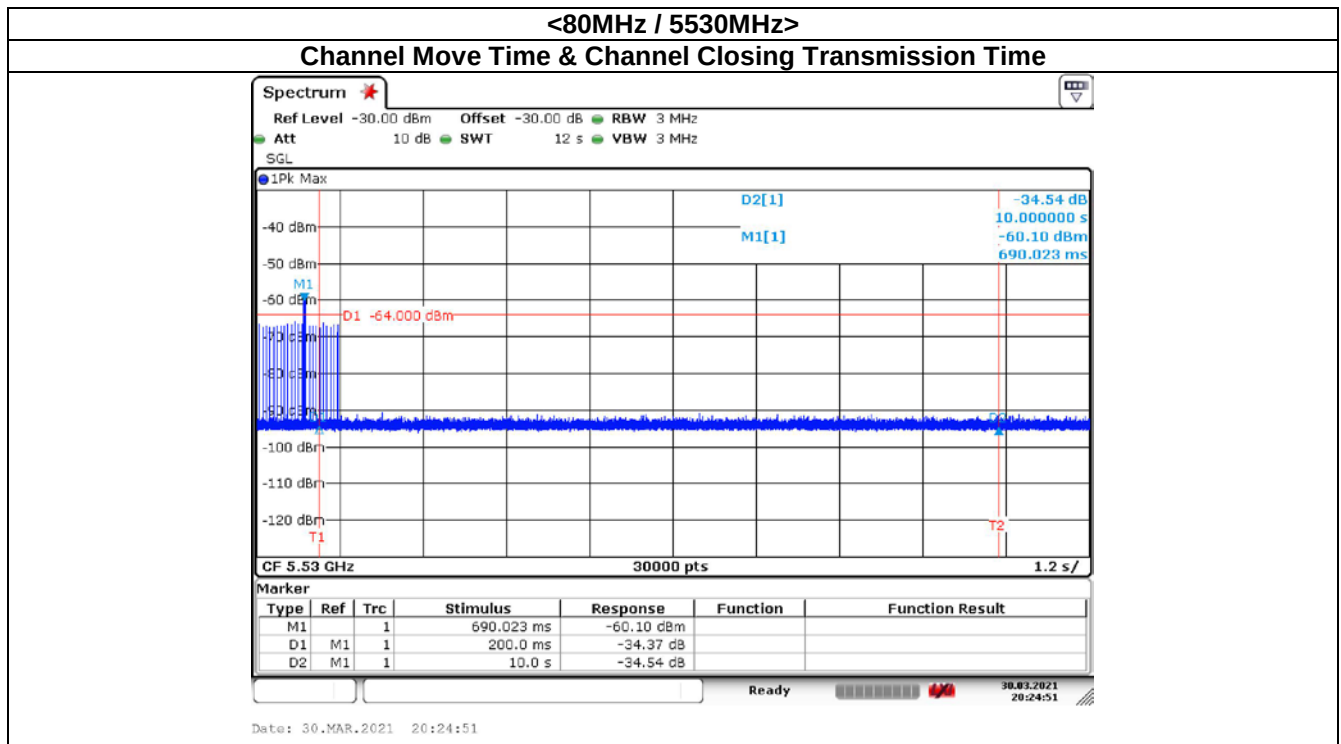
Non-Occupancy Period



Note:

Dwell (0.4 ms) = Sweep Time (12000 ms) / Sweep Point Bins (30000)

Channel Closing Transmission Time (200 + 2 ms) = 200 + Number of beacon after 200ms(5) X Dwell (0.4 ms) < 260ms



Note:

$$\text{Dwell (0.4 ms)} = \text{Sweep Time (12000 ms)} / \text{Sweep Point Bins (30000)}$$
$$\text{Channel Closing Transmission Time (200 + 2.4 ms)} = 200 + \text{Number of beacon after 200ms(6)} \times \text{Dwell (0.4 ms)} < 260\text{ms}$$