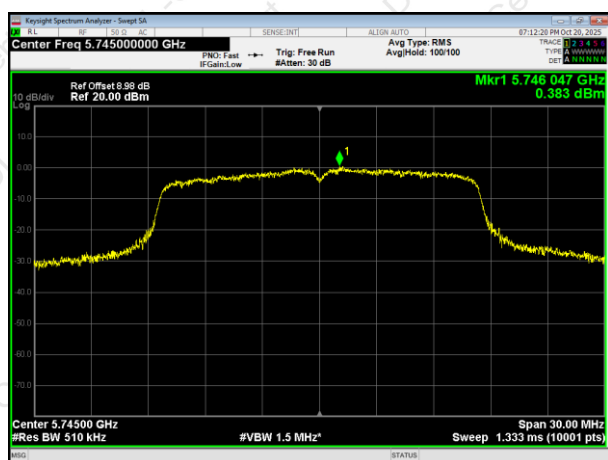
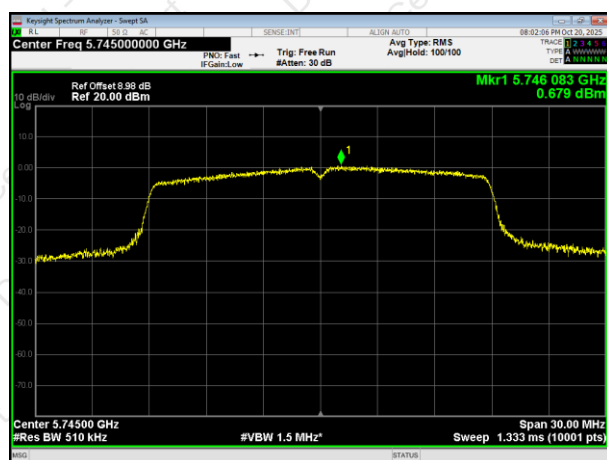




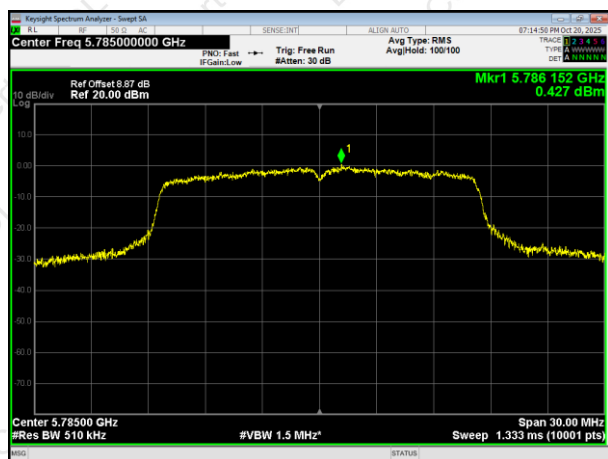
802.11a



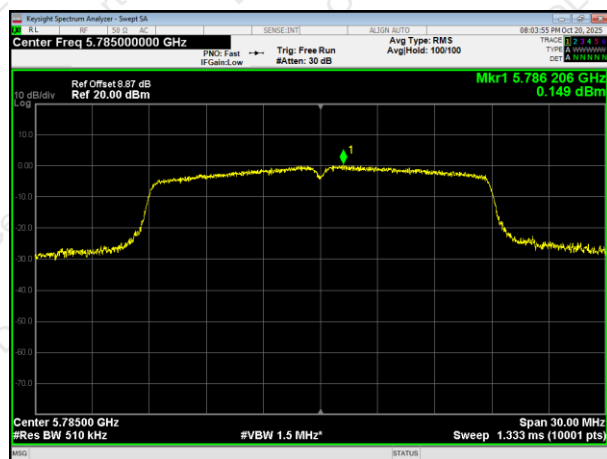
802.11ac HT20



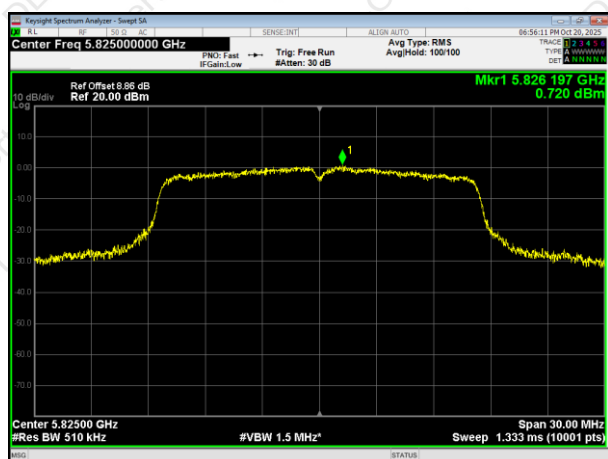
5745MHz



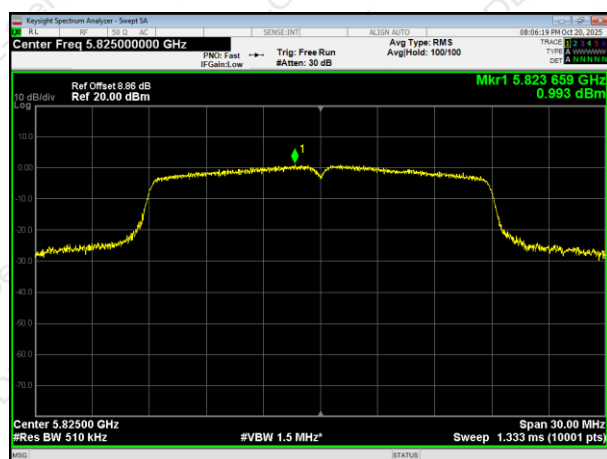
5745MHz



5785MHz



5785MHz

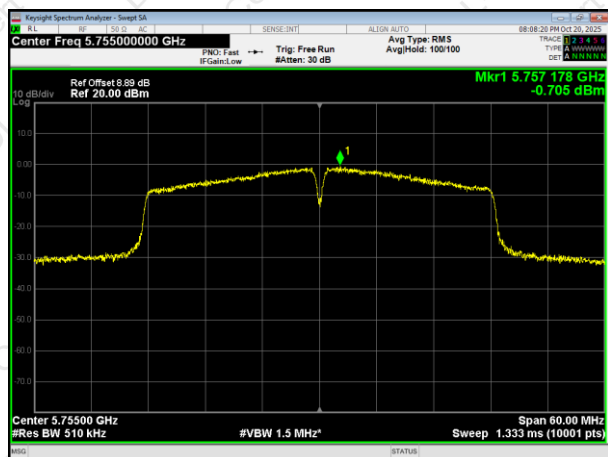


5825MHz

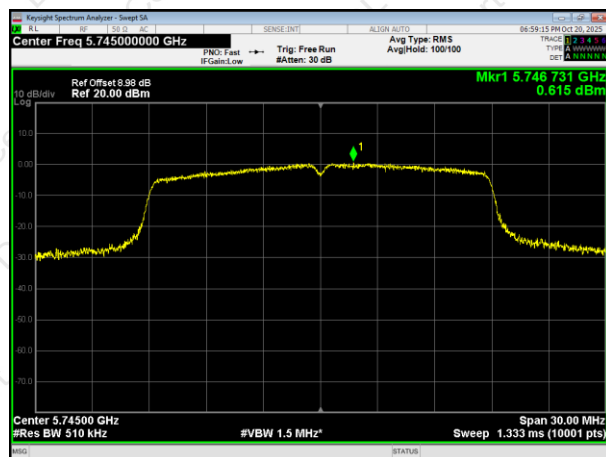
5825MHz



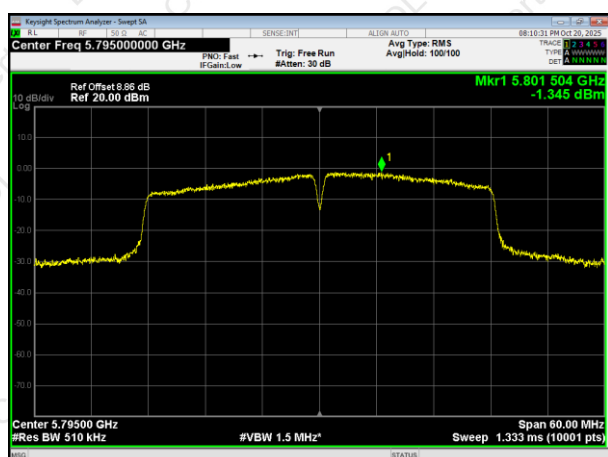
802.11ac HT40



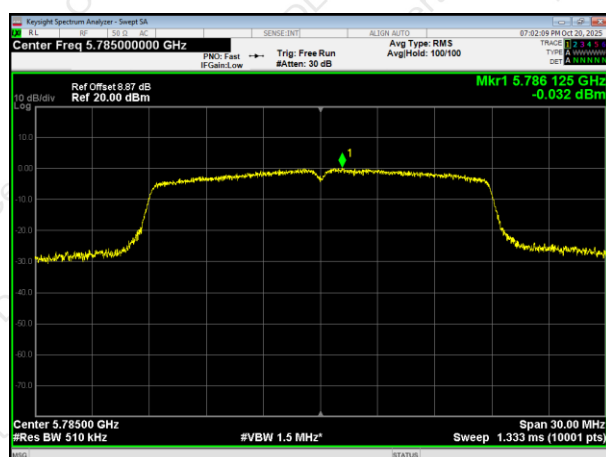
802.11n HT20



5755MHz



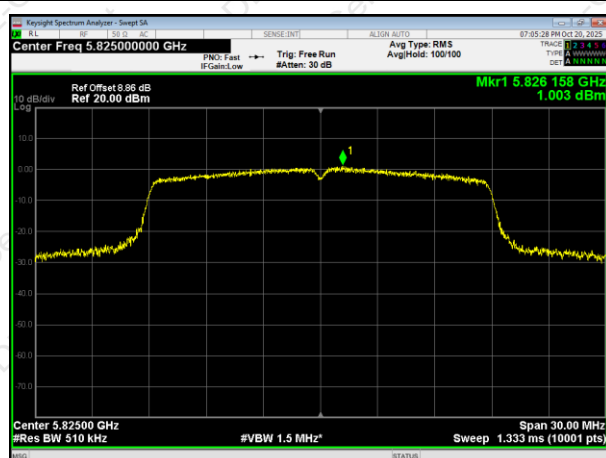
5745MHz



5795MHz



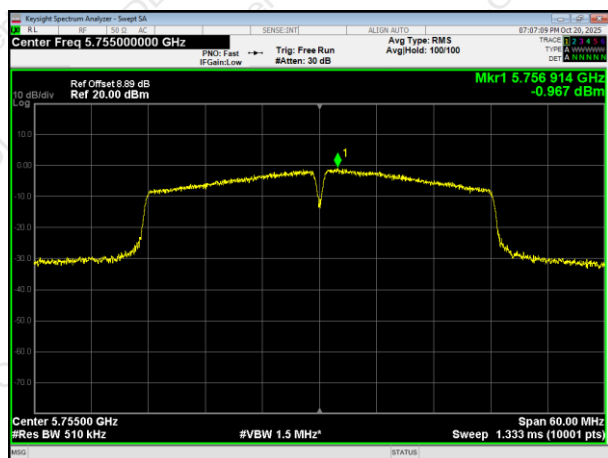
5785MHz



5825MHz



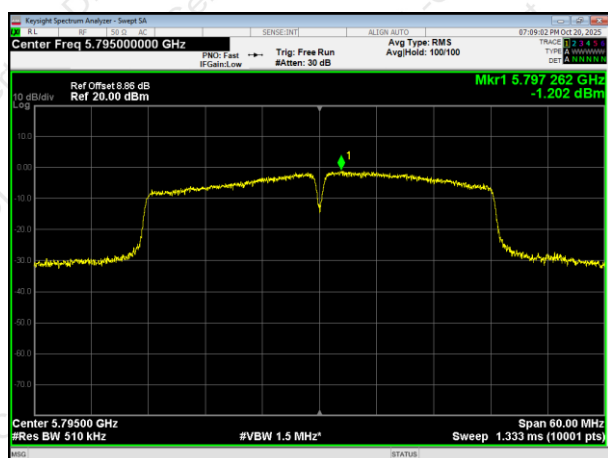
802.11n HT40



802.11ac HT80



5755MHz



5775MHz

5795MHz

**6.. 6DB&26DB&99% BANDWIDTH TEST****6.1. APPLIED PROCEDURES / LIMIT**

The 26 dB bandwidth is used to determine the conducted power limits.

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

6.1.1. TEST PROCEDURE

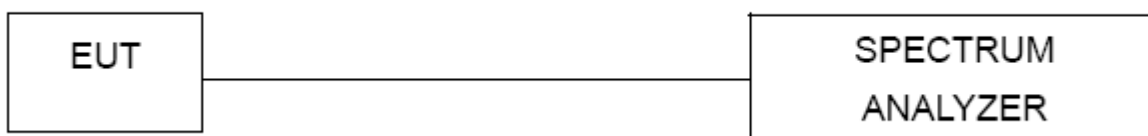
6dB Bandwidth	
Spectrum Parameters	Setting
RBW	100KHz
VBW	300KHz
Span	30MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

26dB Bandwidth	
Spectrum Parameters	Setting
RBW	approximately 1% of the emission bandwidth
VBW	>RBW
Span	30MHz(20MHz Bandwidth mode) 60MHz(40MHz Bandwidth mode) 120MHz(80MHz Bandwidth mode)
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

99% Occupied Bandwidth	
Spectrum Parameters	Setting
RBW	1% to 5% of the OBW
VBW	Approximately three times the RBW
Span	between 1.5 times and 5.0 times the OBW
Sweep Time	Auto
Detector	Peak
Trace Mode	Max Hold

6.1.2. DEVIATION FROM STANDARD

No deviation.

6.1.3. TEST SETUP



6.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

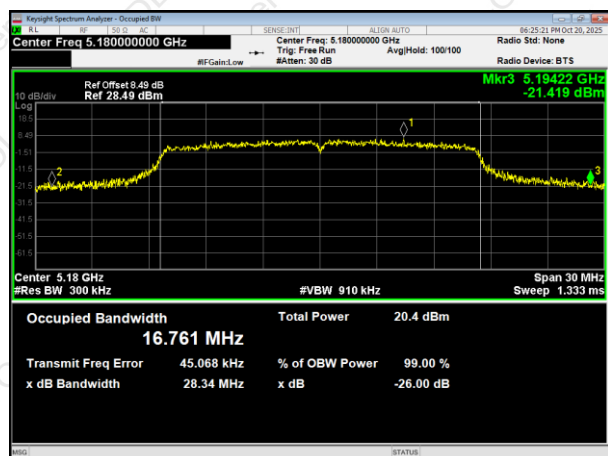
6.1.5. TEST RESULTS

		Test Channel	26dB Bandwidth (MHz)	Result
Band 1	802.11a	Low	28.34	Pass
		Middle	28.84	Pass
		High	25.49	Pass
	802.11ac HT20	Low	29.67	Pass
		Middle	29.97	Pass
		High	29.08	Pass
	802.11ac HT40	Low	55.39	Pass
		High	59.58	Pass
	802.11ac HT80	/	119.4	Pass
	802.11n HT20	Low	28.64	Pass
		Middle	29.99	Pass
		High	29.24	Pass
	802.11n HT40	Low	56.61	Pass
		High	59.73	Pass

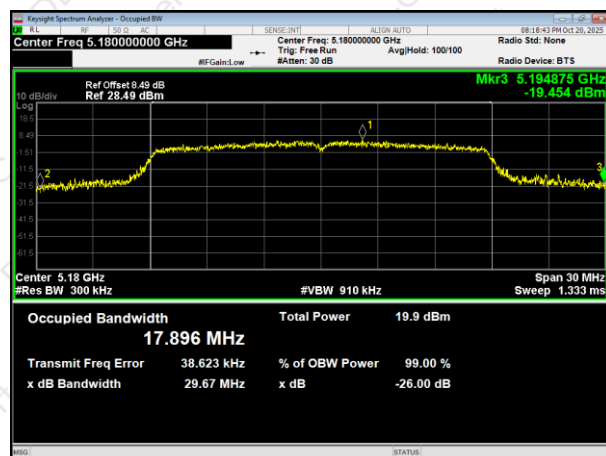
		Test Channel	6dB Bandwidth (MHz)	6dB Bandwidth Limit (MHz)	Result
Band 4	802.11a	Low	15.72	>0.5	Pass
		Middle	15.67	>0.5	Pass
		High	16.02	>0.5	Pass
	802.11ac HT20	Low	15.88	>0.5	Pass
		Middle	16.08	>0.5	Pass
		High	15.05	>0.5	Pass
	802.11ac HT40	Low	32.54	>0.5	Pass
		High	32.57	>0.5	Pass
	802.11ac HT80	/	74.85	>0.5	Pass
	802.11n HT20	Low	16.07	>0.5	Pass
		Middle	15.9	>0.5	Pass
		High	17.52	>0.5	Pass
	802.11n HT40	Low	30.06	>0.5	Pass
		High	32.56	>0.5	Pass



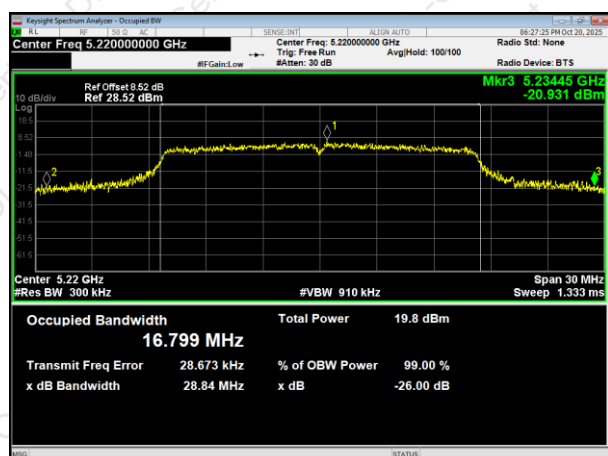
802.11a



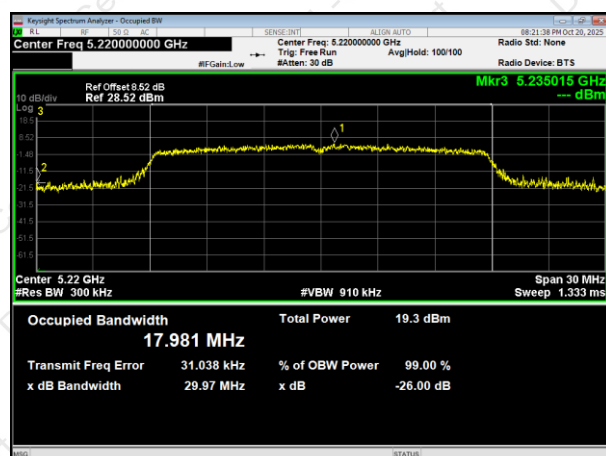
802.11ac HT20



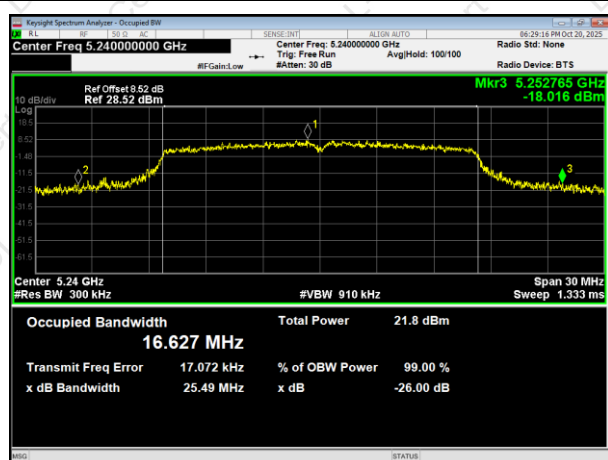
5180MHz



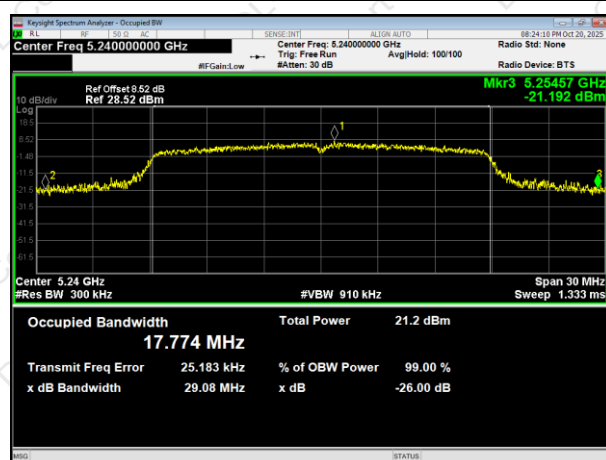
5180MHz



5200MHz



5200MHz

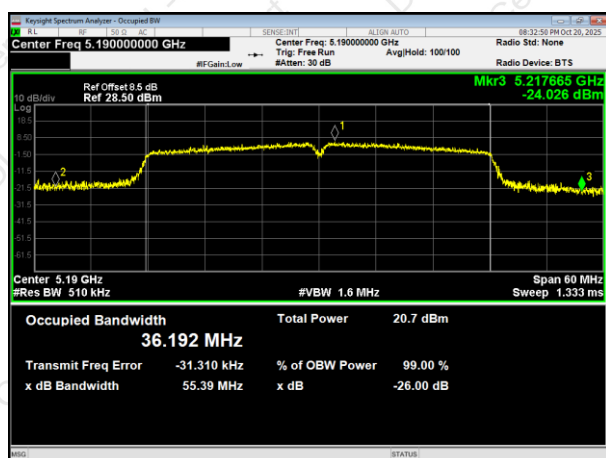


5240MHz

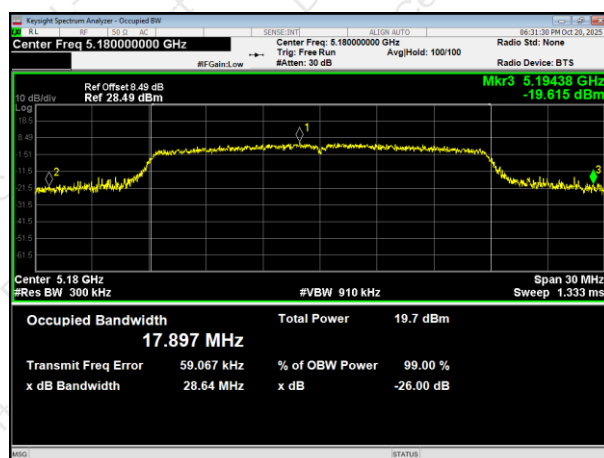
5240MHz



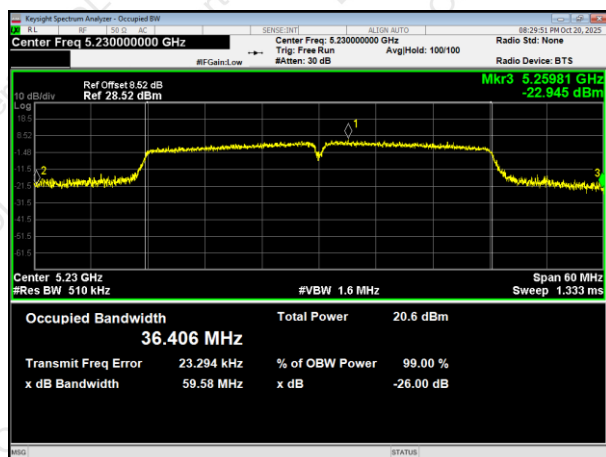
802.11ac HT40



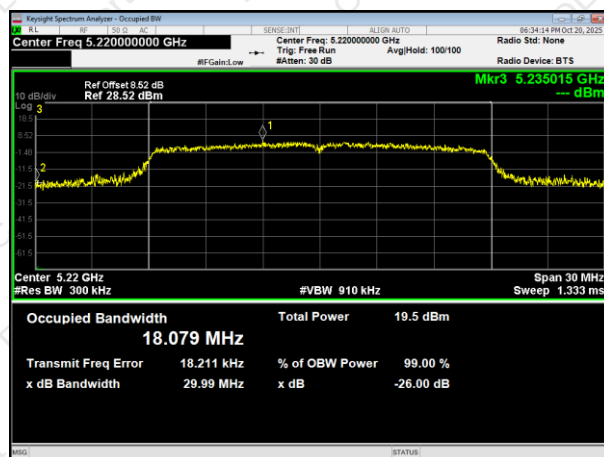
802.11n HT20



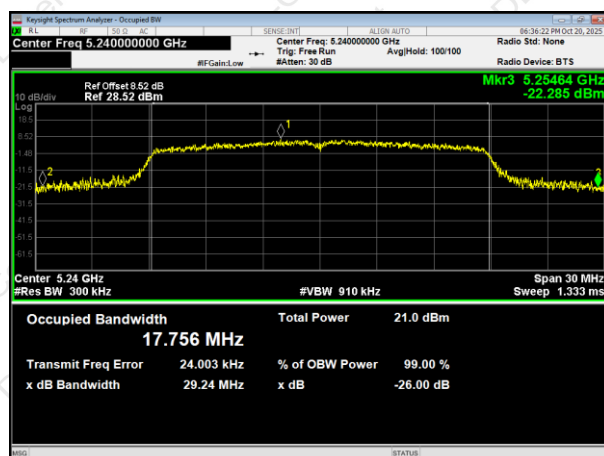
5190MHz



5180MHz



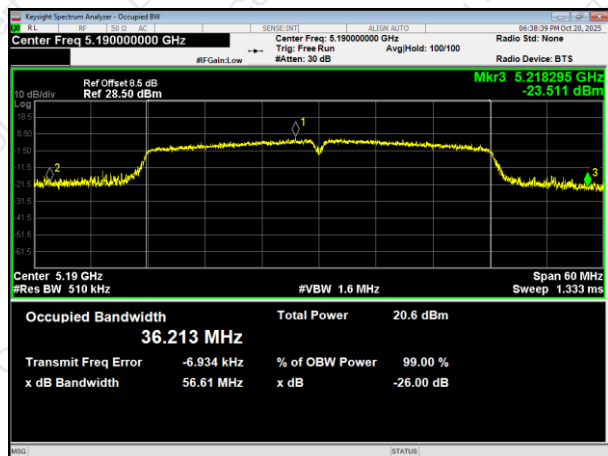
5230MHz



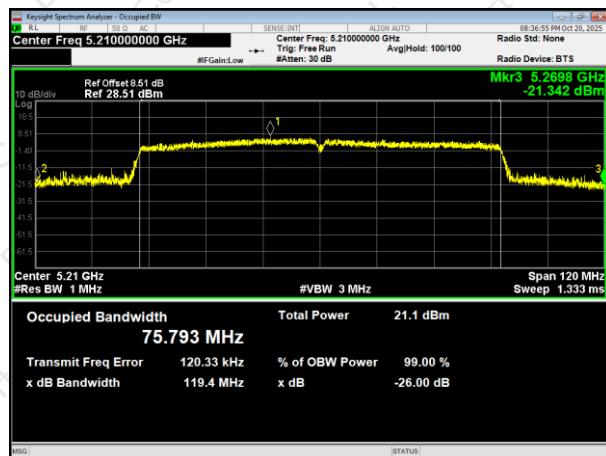
5240MHz



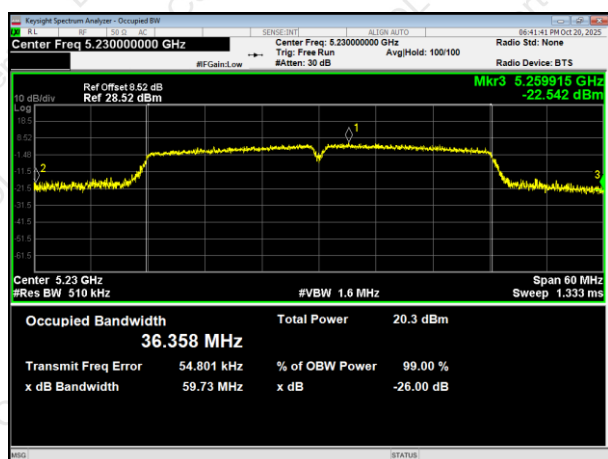
802.11n HT40



802.11ac HT80



5190MHz

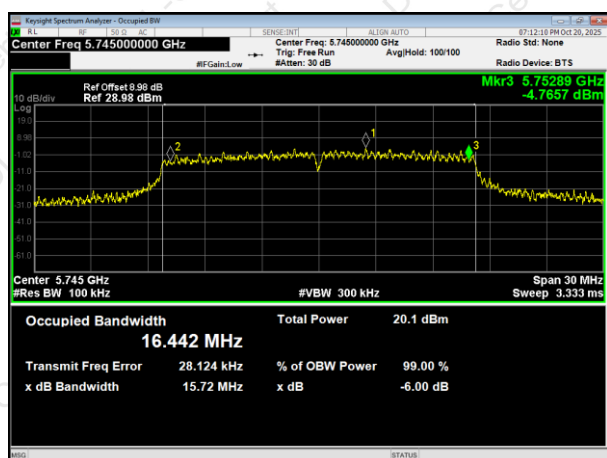


5210MHz

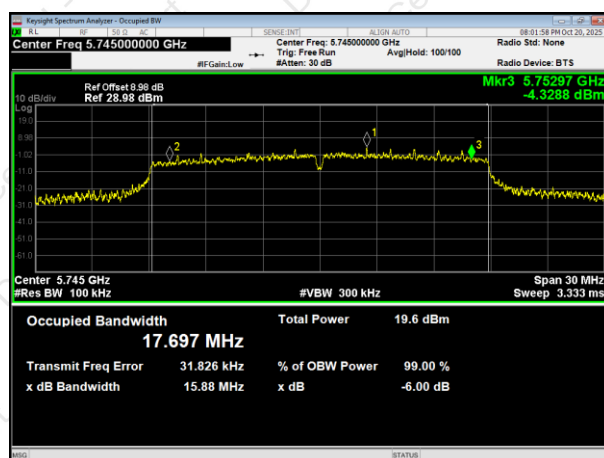
5230MHz



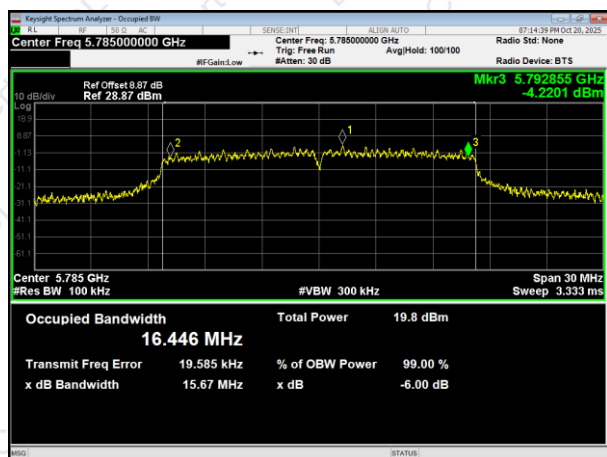
802.11a



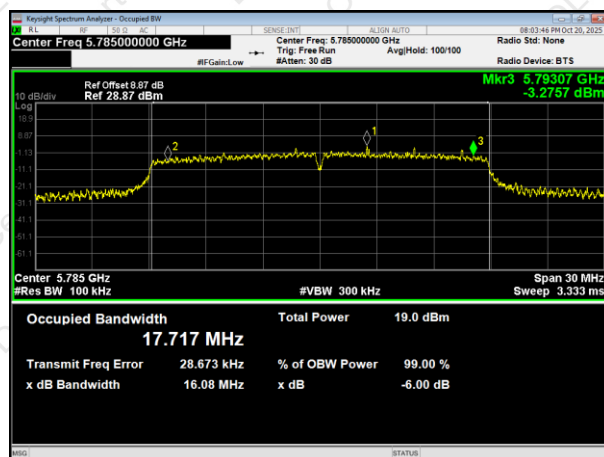
802.11ac HT20



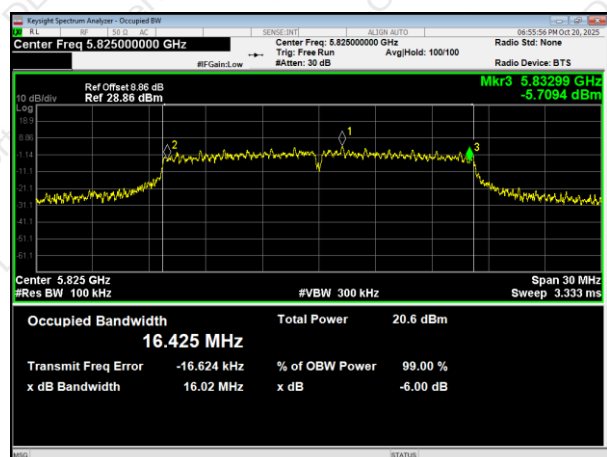
5745MHz



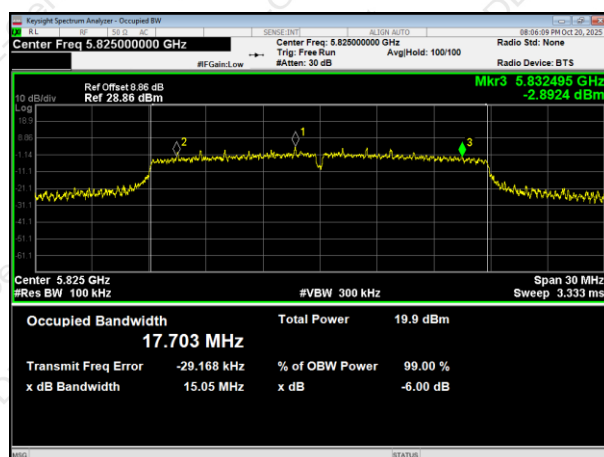
5745MHz



5785MHz



5785MHz

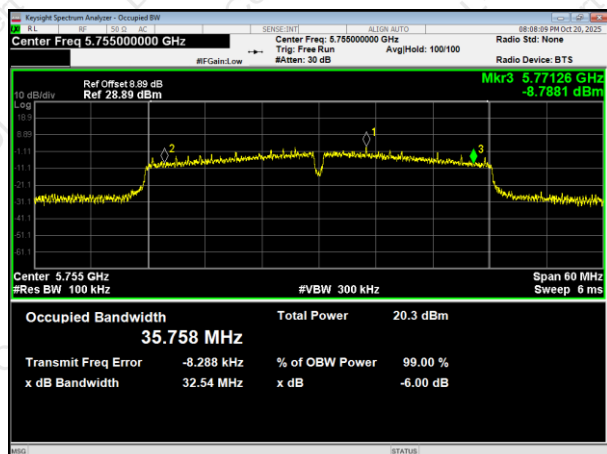


5825MHz

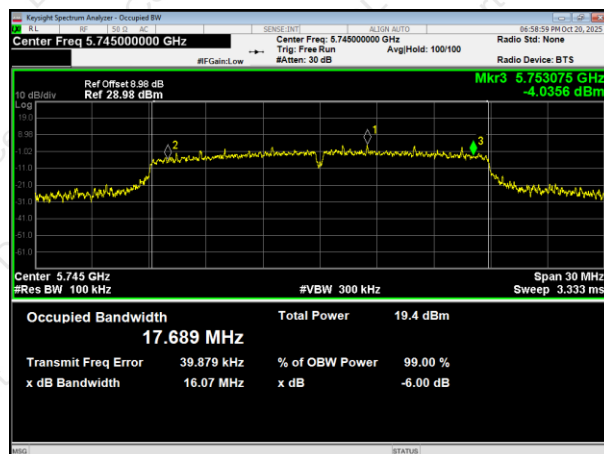
5825MHz



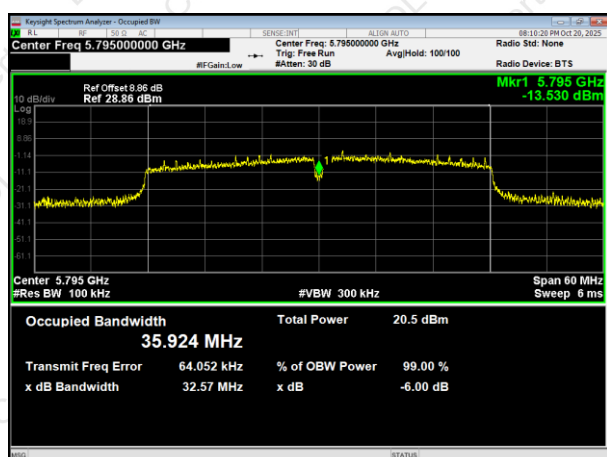
802.11ac HT40



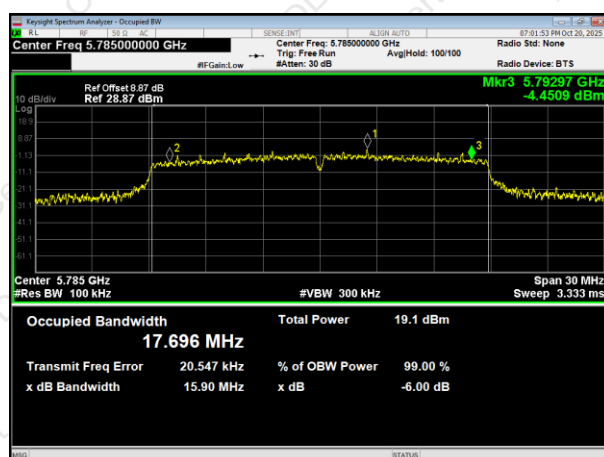
802.11n HT20



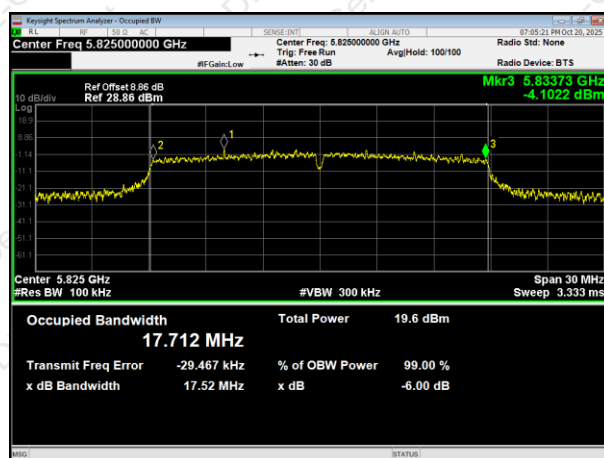
5755MHz



5745MHz



5795MHz

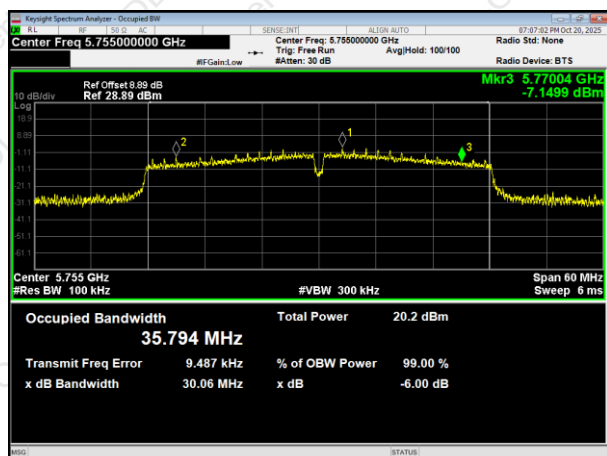


5785MHz

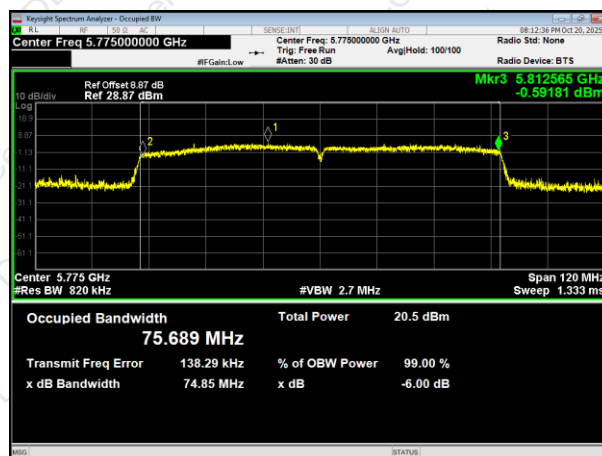
5825MHz



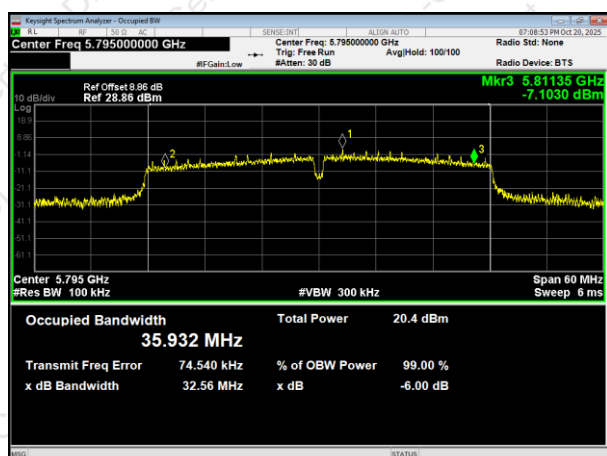
802.11n HT40



802.11ac HT80



5755MHz



5775MHz

5795MHz



7.. DUTY CYCLE TEST SIGNAL

7.1. APPLIED PROCEDURES / LIMIT

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

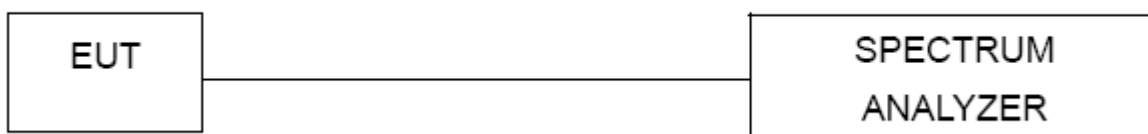
7.1.1. TEST PROCEDURE

1. Set RBW = 1 MHz.
2. Set the video bandwidth (VBW) $\geq$ RBW.
3. Detector = Peak.
4. Sweep = auto couple.
5. Allow the trace to stabilize.
6. Span=0

7.1.2. DEVIATION FROM STANDARD

No deviation.

7.1.3. TEST SETUP



7.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



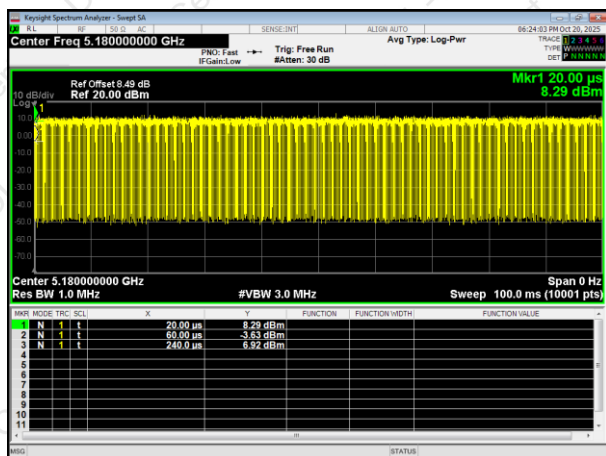
7.1.5. TEST RESULTS

		Test Channel	Duty Cycle(%)	Duty Fator (dB) 10 * log (1/ Duty cycle)
Band 1	802.11a	Low	81.82	0.87
		Middle	81.82	0.87
		High	81.82	0.87
	802.11ac HT20	Low	97.06	0.13
		Middle	97.04	0.13
		High	97.06	0.13
	802.11ac HT40	Low	94.29	0.26
		High	94.29	0.26
	802.11ac HT80	/	86.49	0.63
	802.11n HT20	Low	97.01	0.13
		Middle	97.01	0.13
		High	97.01	0.13
	802.11n HT40	Low	94.2	0.26
		High	92.86	0.32

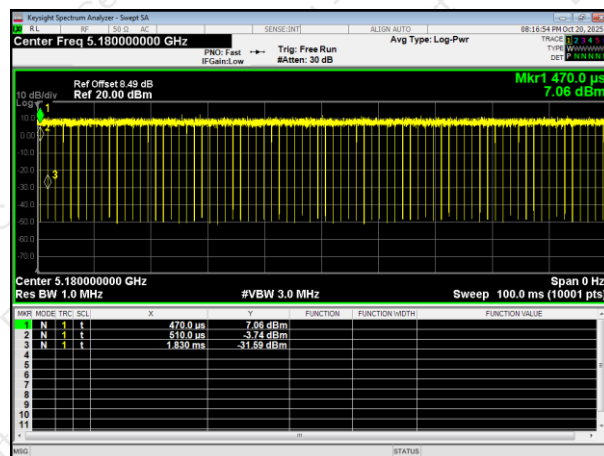
		Test Channel	Duty Cycle(%)	Duty Fator (dB) 10 * log (1/ Duty cycle)
Band 4	802.11a	Low	81.82	0.87
		Middle	81.82	0.87
		High	81.82	0.87
	802.11ac HT20	Low	97.04	0.13
		Middle	97.04	0.13
		High	97.04	0.13
	802.11ac HT40	Low	94.2	0.26
		High	94.2	0.26
	802.11ac HT80	/	89.19	0.5
	802.11n HT20	Low	97.01	0.13
		Middle	97.01	0.13
		High	97.01	0.13
	802.11n HT40	Low	92.86	0.32
		High	94.2	0.26



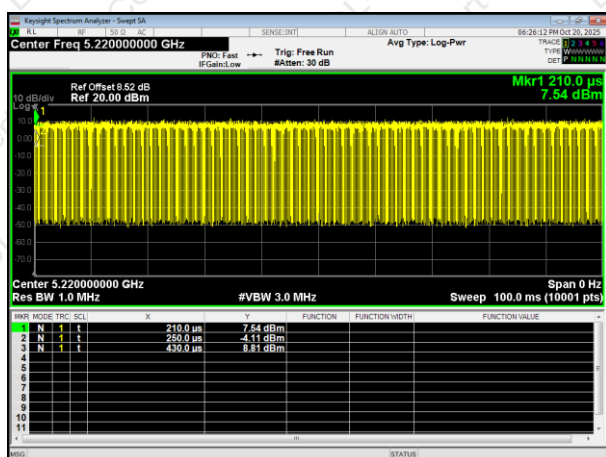
802.11a



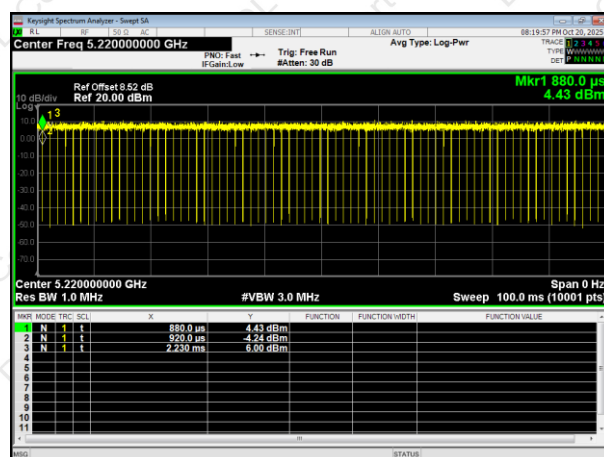
802.11ac HT20



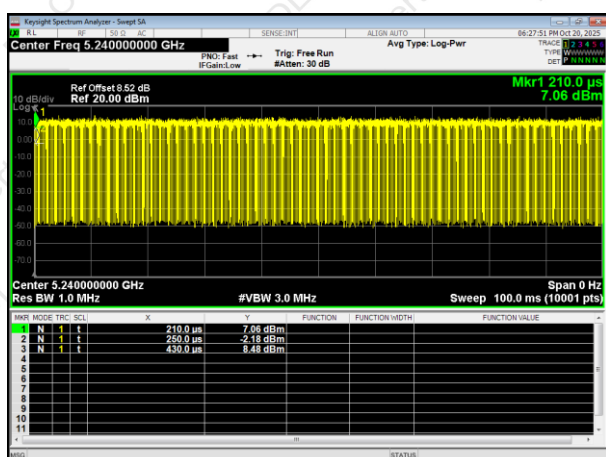
5180MHz



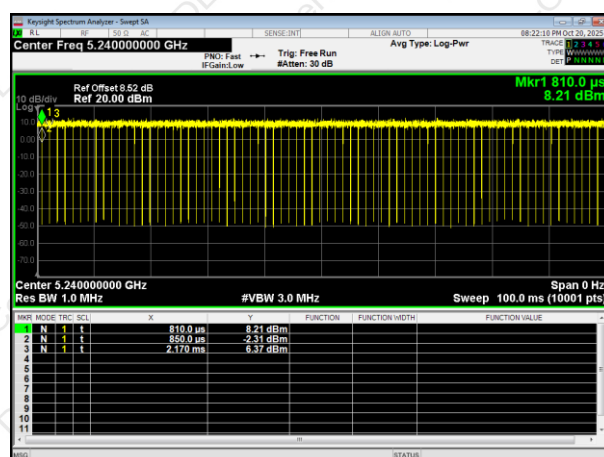
5180MHz



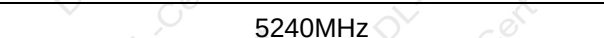
5200MHz



5200MHz



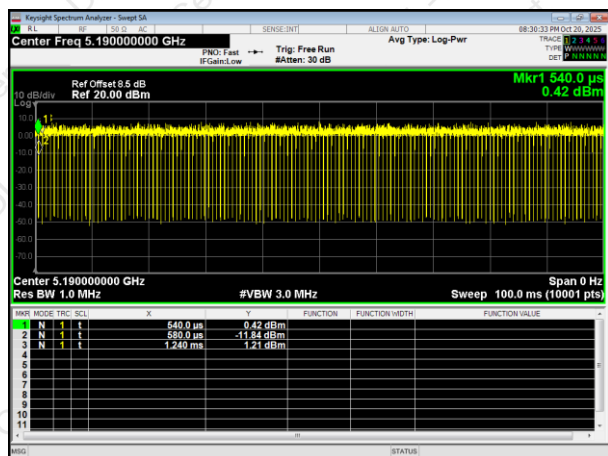
5240MHz



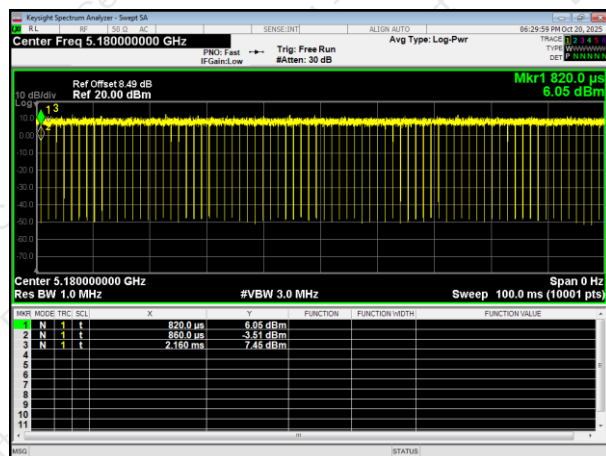
5240MHz



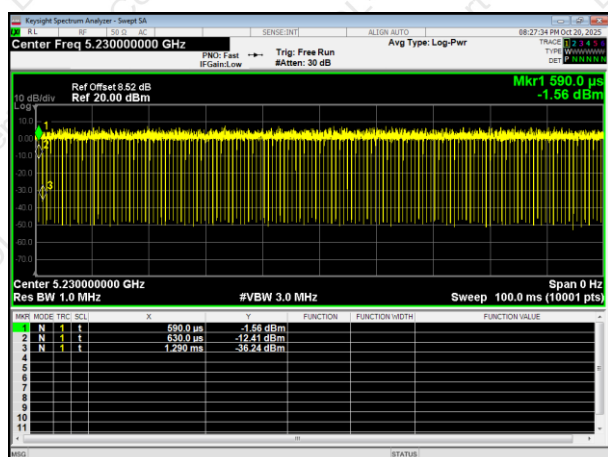
802.11ac HT40



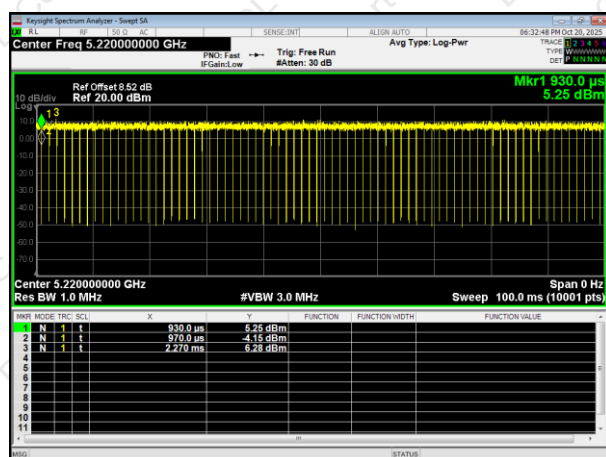
802.11n HT20



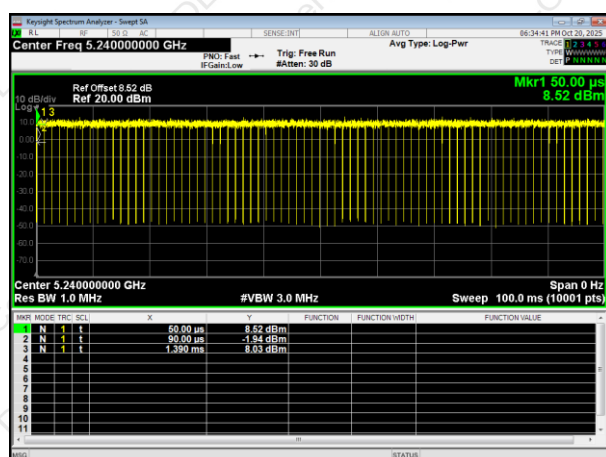
5190MHz



5180MHz



5230MHz

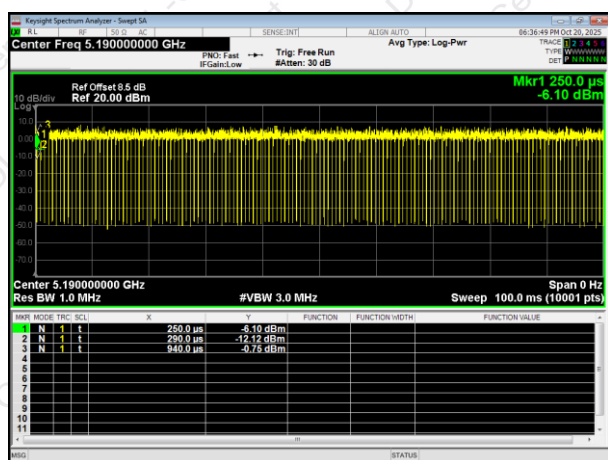


5200MHz

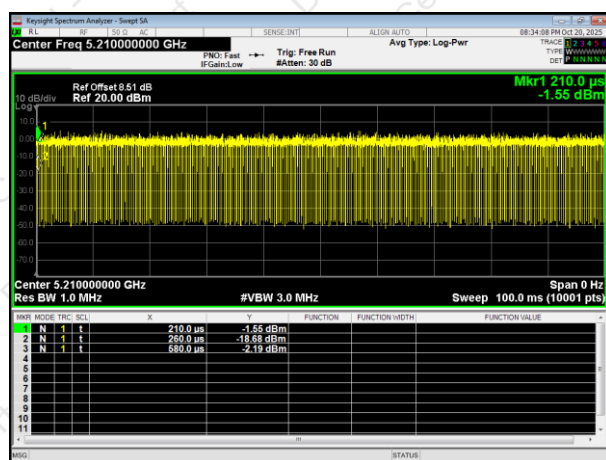
5240MHz



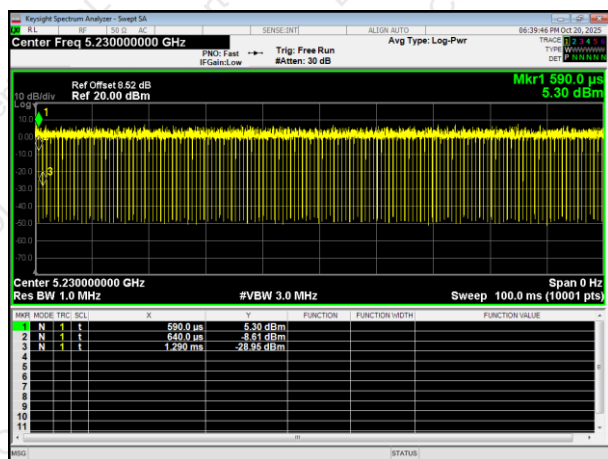
802.11n HT40



802.11ac HT80



5190MHz

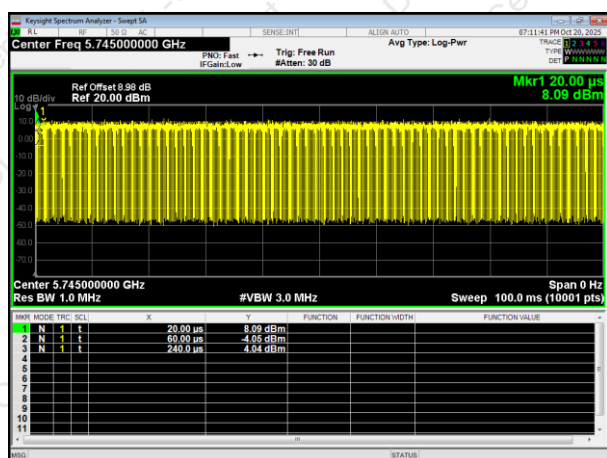


5210MHz

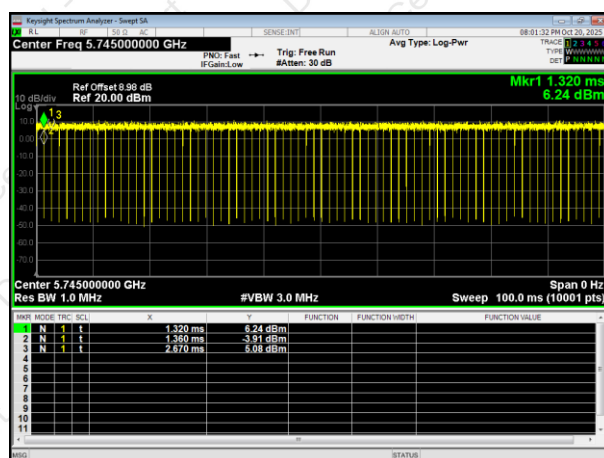
5230MHz



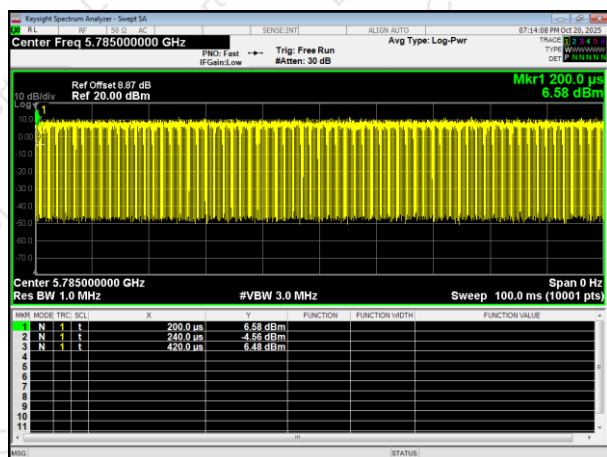
802.11a



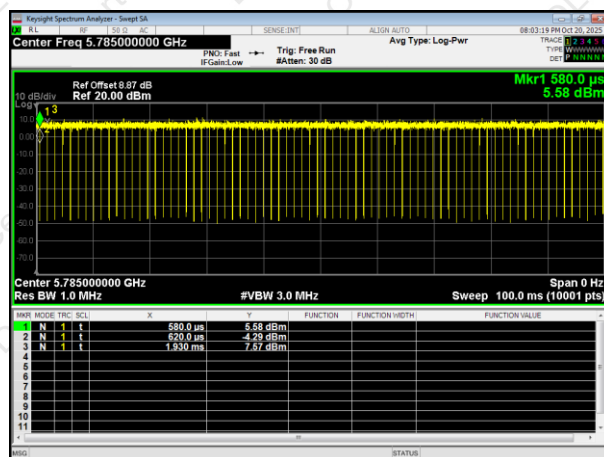
802.11ac HT20



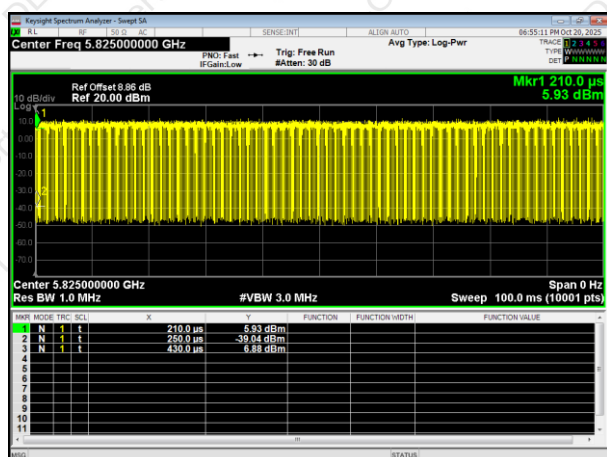
5745MHz



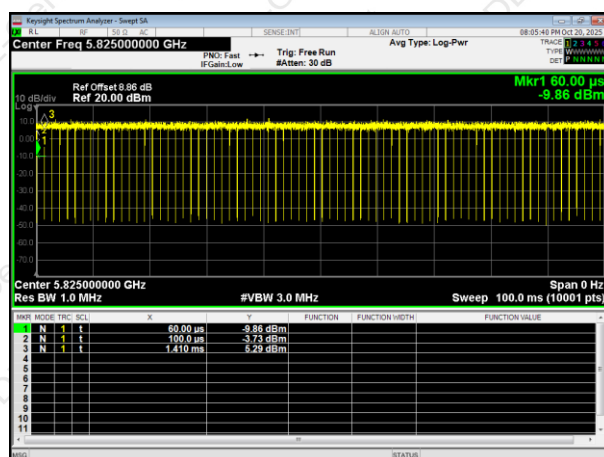
5745MHz



5785MHz



5785MHz

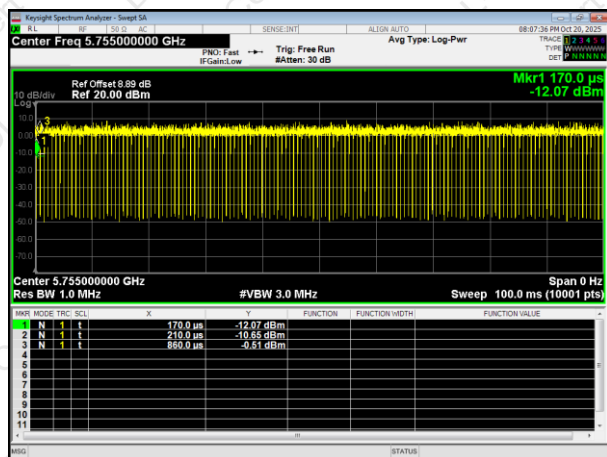


5825MHz

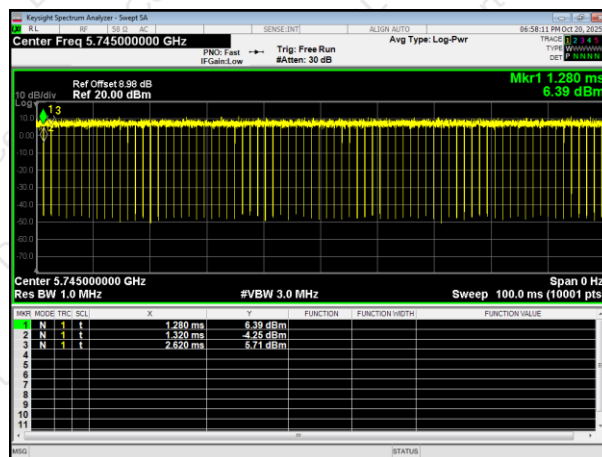
5825MHz



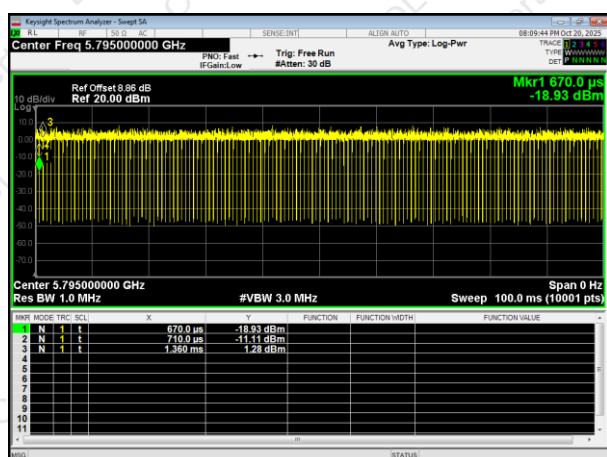
802.11ac HT40



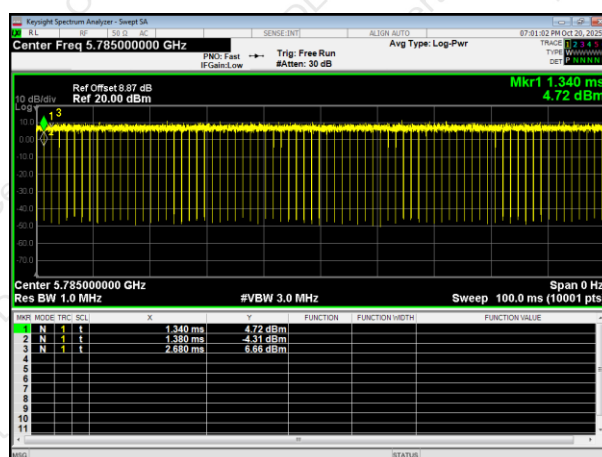
802.11n HT20



5755MHz



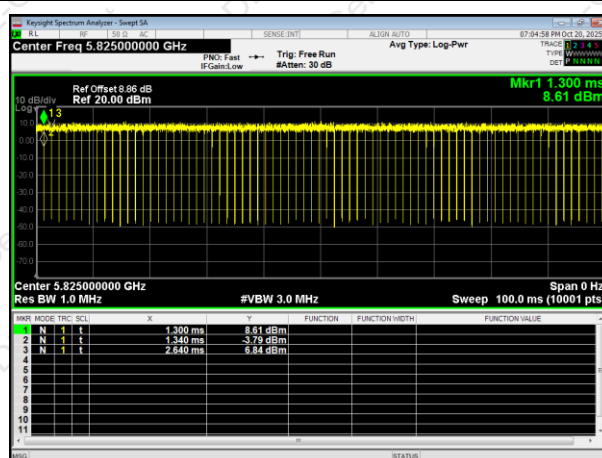
5745MHz



5795MHz



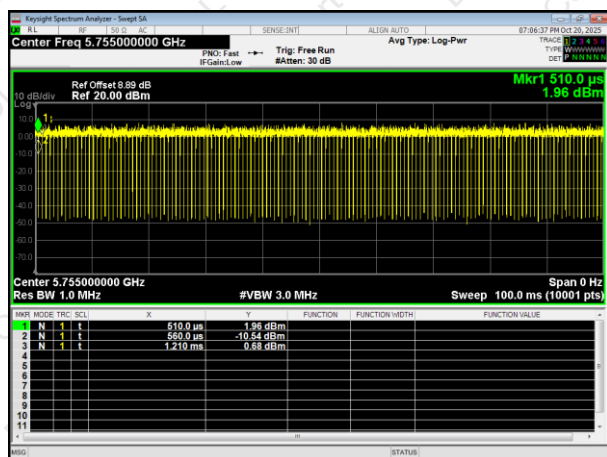
5785MHz



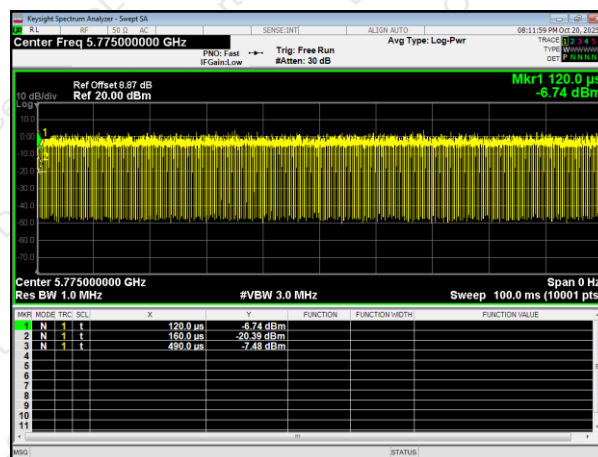
5825MHz



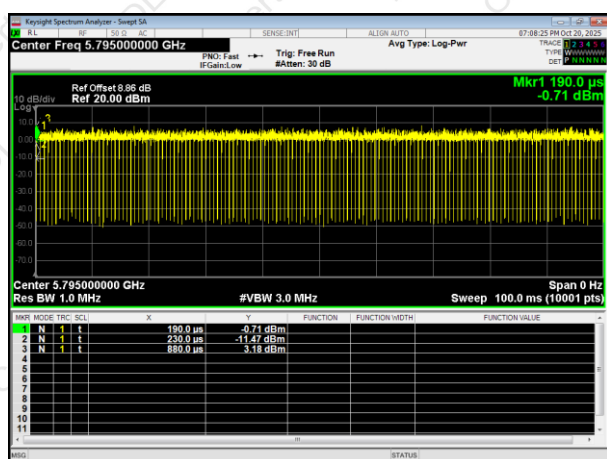
802.11n HT40



802.11ac HT80



5755MHz



5775MHz

5795MHz



8.. FREQUENCY STABILITY

8.1. APPLIED PROCEDURES / LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

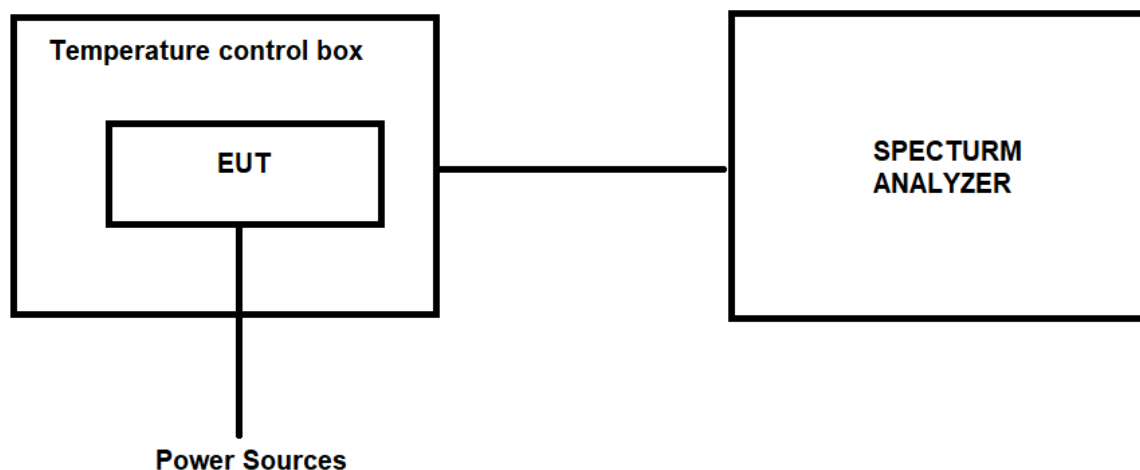
8.1.1. TEST PROCEDURE

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
2. Set EUT as normal operation.
3. Turn the EUT on and couple its output to spectrum.
4. Turn the EUT off and set the chamber to the highest temperature specified.
5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
6. Repeat step with the temperature chamber set to the lowest temperature.

8.1.2. DEVIATION FROM STANDARD

No deviation.

8.1.3. TEST SETUP



8.1.4. EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



8.1.5. TEST RESULTS

Test Voltage	Test Temp.	Measured Frequency	Spectrum Frequency (MHz)			Δ Frequency (PPM)		
		(MHz)	802.11a	802.11n HT20	802.11ac HT20	802.11a	802.11n HT20	802.11ac HT20
5.5V	-20°C	5180	5180.0035	5180.0058	5180.0025	0.6757	1.1197	0.4826
		5220	5220.0034	5220.0013	5220.0026	0.6513	0.2490	0.4981
		5240	5240.0023	5240.0028	5240.0015	0.4389	0.5344	0.2863
		5745	5745.0018	5745.0014	5745.0021	0.3133	0.2437	0.3655
		5785	5785.0023	5785.0026	5785.0028	0.3976	0.4494	0.4840
		5825	5825.0054	5825.0017	5825.0016	0.9270	0.2918	0.2747
4.5V	-20°C	5180	5180.0053	5180.0016	5180.0024	1.0232	0.3089	0.4633
		5220	5220.0017	5220.0052	5220.0032	0.3257	0.9962	0.6130
		5240	5240.0013	5240.0021	5240.0023	0.2481	0.4008	0.4389
		5745	5745.0011	5745.0019	5745.0014	0.1915	0.3307	0.2437
		5785	5785.0043	5785.0018	5785.0025	0.7433	0.3111	0.4322
		5825	5825.0016	5825.0052	5825.0013	0.2747	0.8927	0.2232
5V	25°C	5180	5180.0023	5180.0013	5180.0028	0.4440	0.2510	0.5405
		5220	5220.0016	5220.0037	5220.0015	0.3065	0.7088	0.2874
		5240	5240.0057	5240.0016	5240.0023	1.0878	0.3053	0.4389
		5745	5745.0055	5745.0025	5745.0047	0.9574	0.4352	0.8181
		5785	5785.0063	5785.0016	5785.0052	1.0890	0.2766	0.8989
		5825	5825.0012	5825.0017	5825.0046	0.2060	0.2918	0.7897
5.5V	50°C	5180	5180.0014	5180.0032	5180.0022	0.2703	0.6178	0.4247
		5220	5220.0037	5220.0041	5220.0024	0.7088	0.7854	0.4598
		5240	5240.0056	5240.0023	5240.0021	1.0687	0.4389	0.4008
		5745	5745.0025	5745.0047	5745.0023	0.4352	0.8181	0.4003
		5785	5785.0016	5785.0023	5785.0027	0.2766	0.3976	0.4667
		5825	5825.0052	5825.0041	5825.0025	0.8927	0.7039	0.4292
4.5V	50°C	5180	5180.0085	5180.0022	5180.0021	1.6409	0.4247	0.4054
		5220	5220.0056	5220.0013	5220.0023	1.0728	0.2490	0.4406
		5240	5240.0085	5240.0028	5240.0045	1.6221	0.5344	0.8588
		5745	5745.0012	5745.0029	5745.0026	0.2089	0.5048	0.4526
		5785	5785.0059	5785.0024	5785.0024	1.0199	0.4149	0.4149
		5825	5825.0021	5825.0037	5825.0042	0.3605	0.6352	0.7210



Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)		Δ Frequency (PPM)	
			802.11n HT40	802.11ac HT40	802.11n HT40	802.11ac HT40
5.5V	-20°C	5190	5190.0026	5190.0026	0.5010	0.5010
		5230	5230.0035	5230.0035	0.6692	0.6692
		5755	5755.0028	5755.0018	0.4865	0.3128
		5795	5795.0051	5795.0026	0.8801	0.4487
4.5V	-20°C	5190	5190.0016	5190.0025	0.3083	0.4817
		5230	5230.0041	5230.0047	0.7839	0.8987
		5755	5755.0039	5755.0026	0.6777	0.4518
		5795	5795.0045	5795.0043	0.7765	0.7420
5V	25°C	5190	5190.0022	5190.0052	0.4239	1.0019
		5230	5230.0046	5230.0036	0.8795	0.6883
		5755	5755.0023	5755.0015	0.3997	0.2606
		5795	5795.0013	5795.0031	0.2243	0.5349
5.5V	50°C	5190	5190.0014	5190.0028	0.2697	0.5395
		5230	5230.0018	5230.0016	0.3442	0.3059
		5755	5755.0036	5755.0025	0.6255	0.4344
		5795	5795.0021	5795.0033	0.3624	0.5695
4.5V	50°C	5190	5190.0027	5190.0018	0.5202	0.3468
		5230	5230.0012	5230.0014	0.2294	0.2677
		5755	5755.0023	5755.0016	0.3997	0.2780
		5795	5795.0014	5795.0013	0.2416	0.2243



Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (PPM)
			802.11ac HT80	802.11ac HT80
5.5V	-20°C	5210	5210.0006	0.1152
		5775	5775.0018	0.3117
4.5V		5210	5210.0025	0.4798
		5775	5775.0043	0.7446
5V	25°C	5210	5210.0017	0.3263
		5775	5775.0035	0.6061
5.5V	50°C	5210	5210.0063	1.2092
		5775	5775.0013	0.2251
4.5V	50°C	5210	5210.0037	0.7102
		5775	5775.0045	0.7792



9.. TRANSMISSION IN THE ABSENCE OF DATA

9.1. STANDARD REQUIREMENT

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

9.2. TEST RESULT

No non-compliance noted:
Refer to the theory of operation.

10.. ANTENNA REQUIREMENT

10.1. STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2. EUT ANTENNA

The EUT antenna is Internal Antenna, It comply with the standard requirement.

11.. TEST SEUUP PHOTO

Reference to the appendix I for details.

12.. EUT PHOTO

Reference to the appendix II for details.

***** END OF REPORT *****