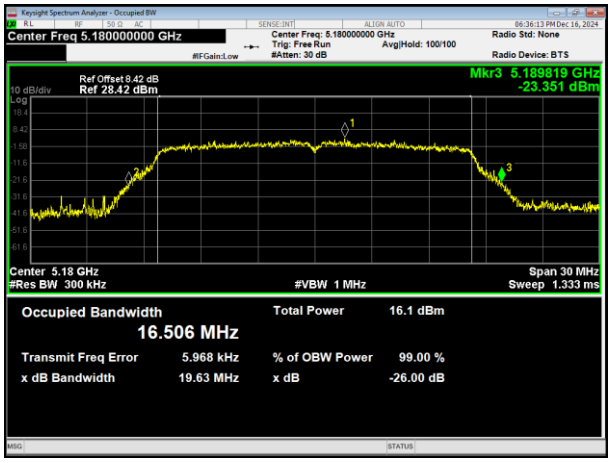
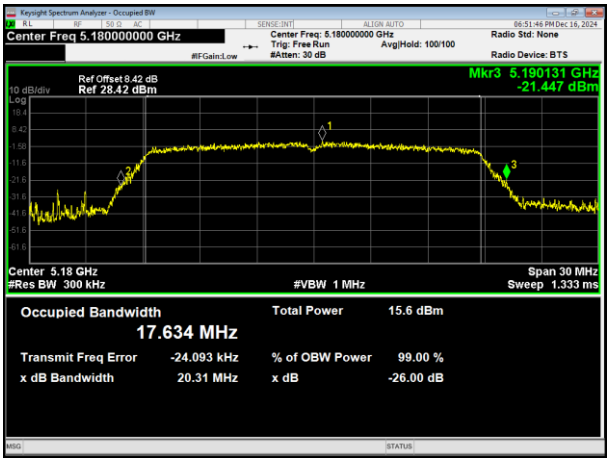
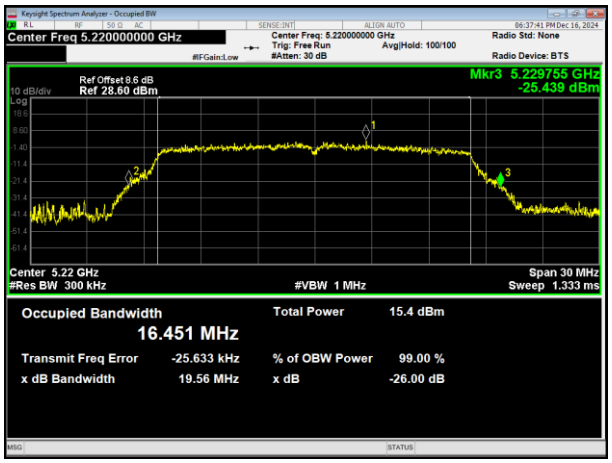
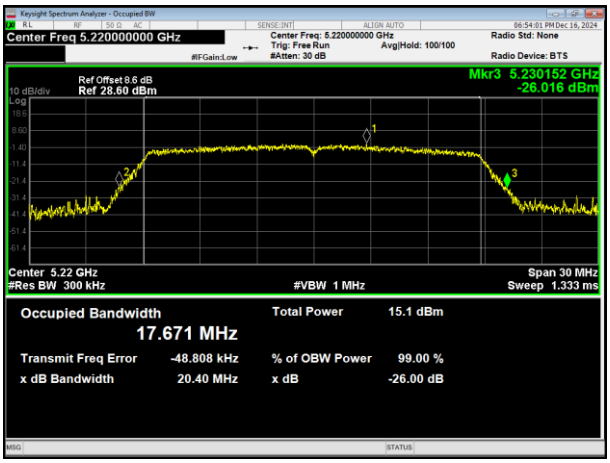
6.1.4. EUT OPERATION CONDITIONS

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	19.63	Pass
		Middle	19.56	Pass
		High	19.40	Pass
	802.11ac HT20	Low	20.31	Pass
		Middle	20.40	Pass
		High	20.30	Pass
	802.11ac HT40	Low	40.45	Pass
		High	40.59	Pass
	802.11ac HT80	/	80.39	Pass
	802.11n HT20	Low	20.36	Pass
		Middle	20.20	Pass
		High	21.41	Pass
	802.11n HT40	Low	40.10	Pass
		High	40.15	Pass

		Test Channel	6dB Bandwidth (MHz)	6dB Bandwidth Limit (MHz)	Result
Band 4	802.11a	Low	16.29	>0.5	Pass
		Middle	16.18	>0.5	Pass
		High	15.70	>0.5	Pass
	802.11ac HT20	Low	17.57	>0.5	Pass
		Middle	16.08	>0.5	Pass
		High	16.52	>0.5	Pass
	802.11ac HT40	Low	35.04	>0.5	Pass
		High	33.99	>0.5	Pass
	802.11ac HT80	/	75.05	>0.5	Pass
	802.11n HT20	Low	15.91	>0.5	Pass
		Middle	15.67	>0.5	Pass
		High	16.00	>0.5	Pass
	802.11n HT40	Low	33.84	>0.5	Pass
		High	35.44	>0.5	Pass

802.11a	802.11ac HT20
	
5180MHz	5180MHz
	
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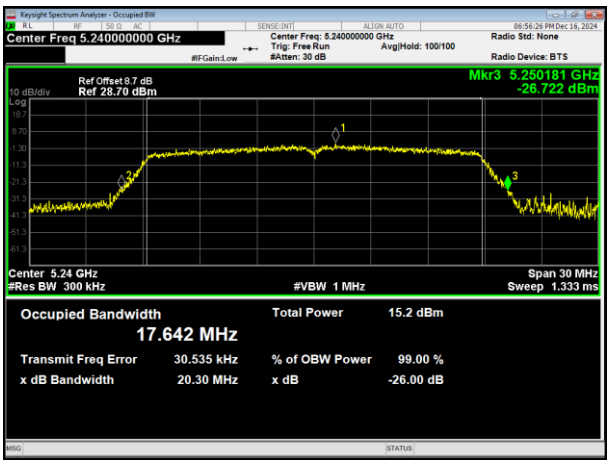
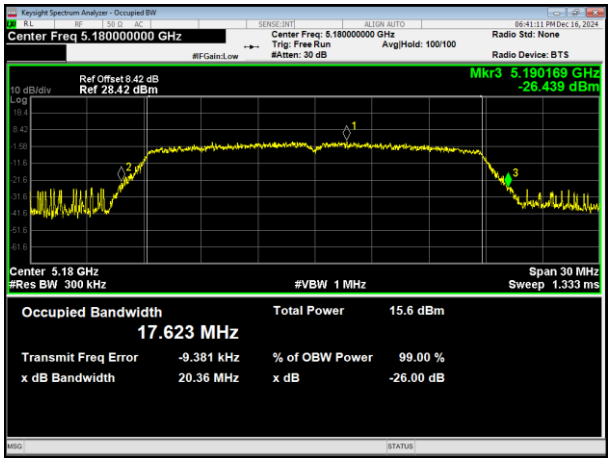
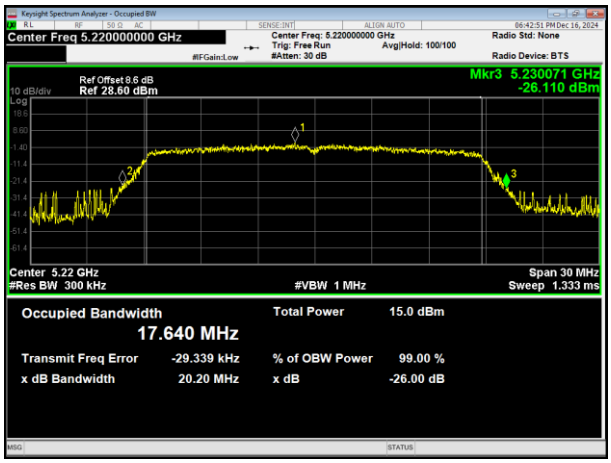
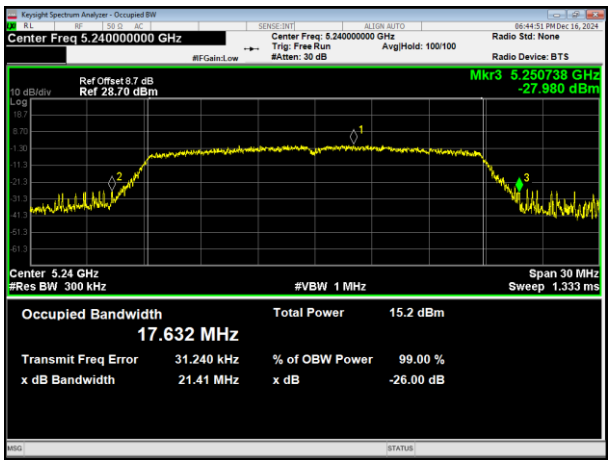
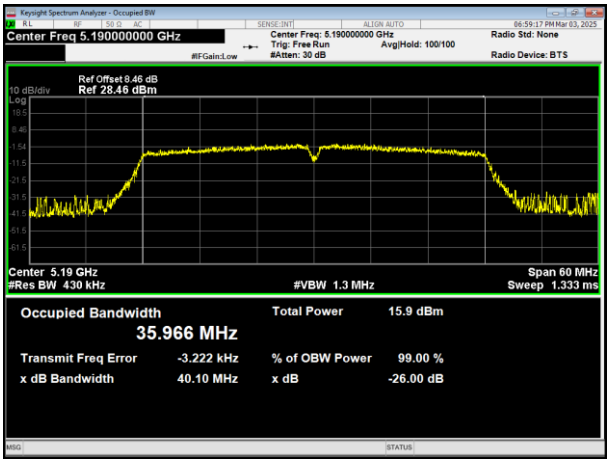
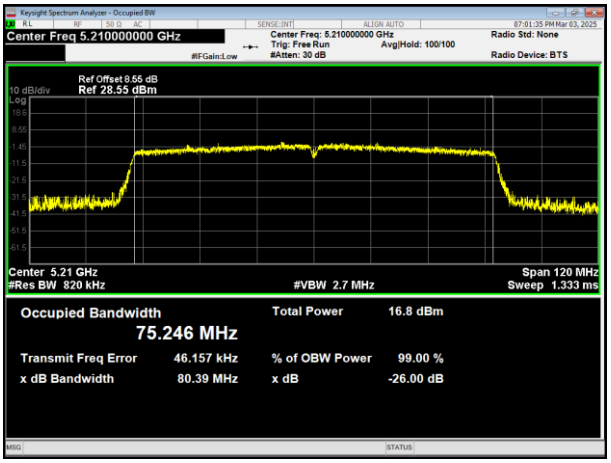
	
5240MHz	5240MHz

802.11ac HT40	802.11n HT20
	
5190MHz	5180MHz
	
5230MHz	5200MHz
	
	5240MHz

802.11n HT40	802.11ac HT80
	
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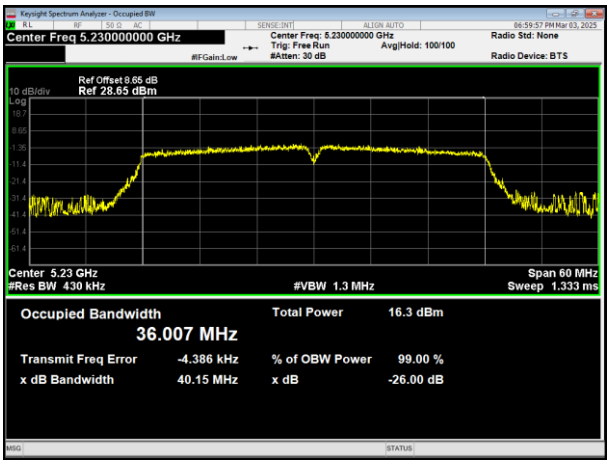
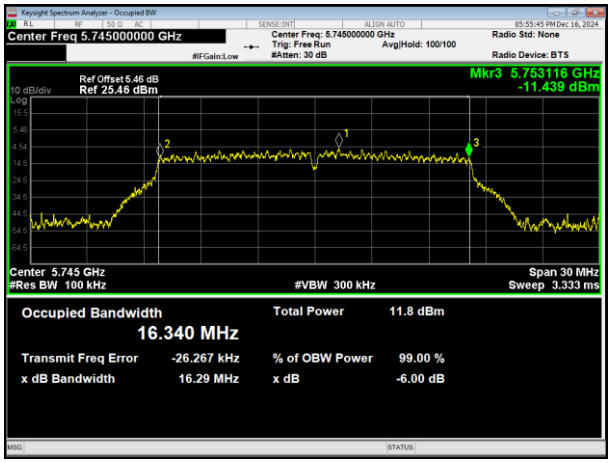
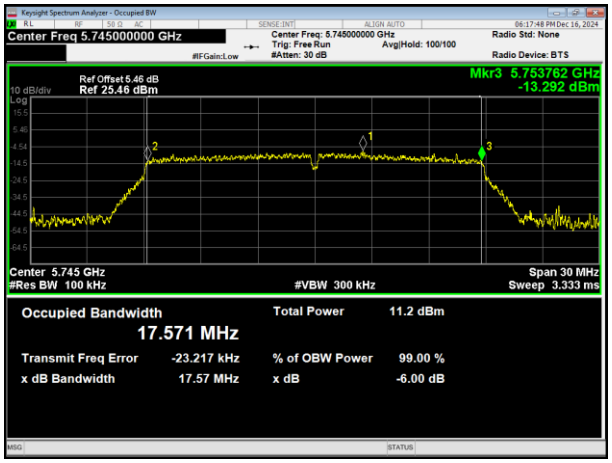
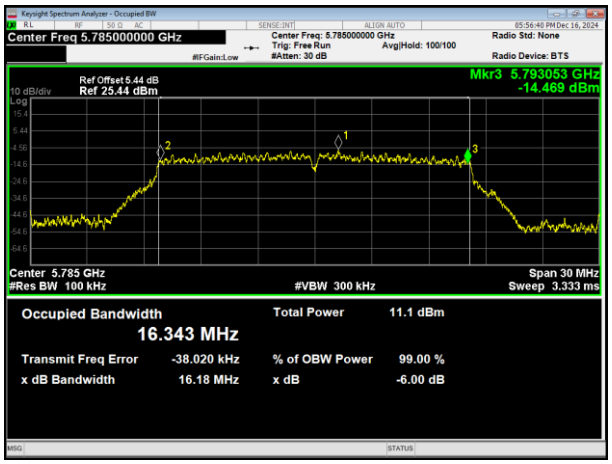
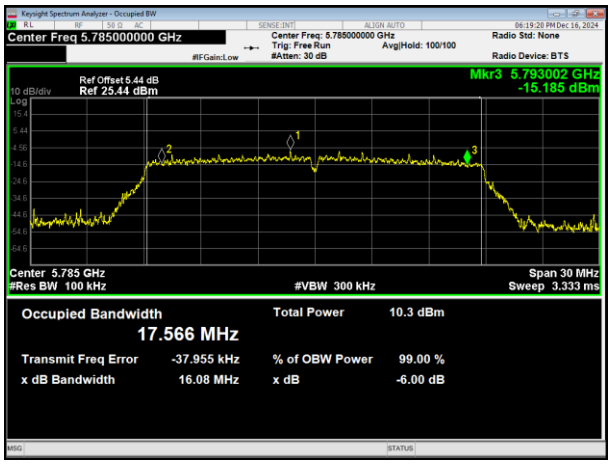
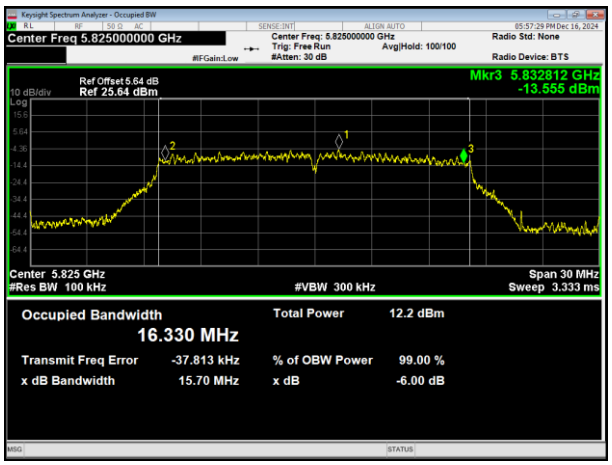
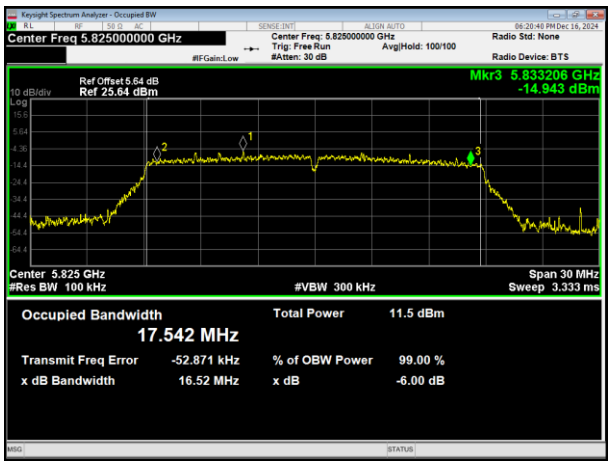
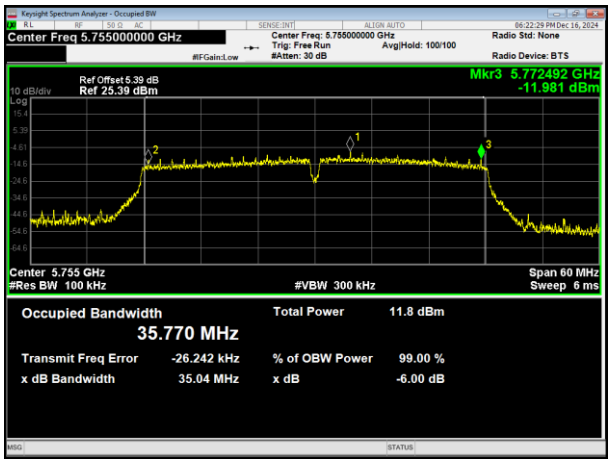
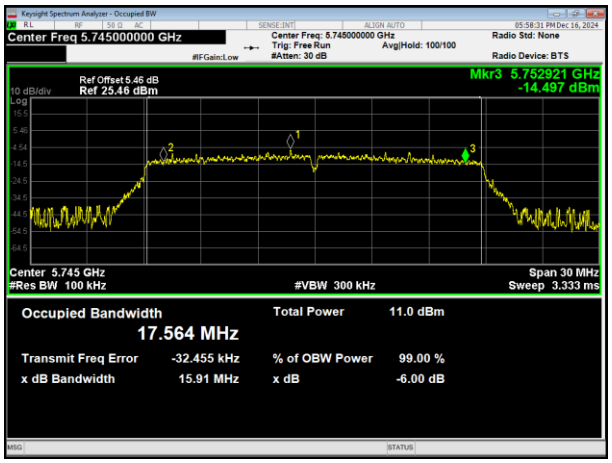
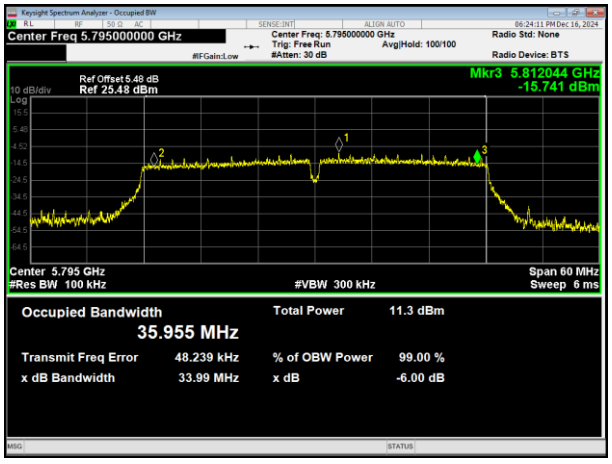
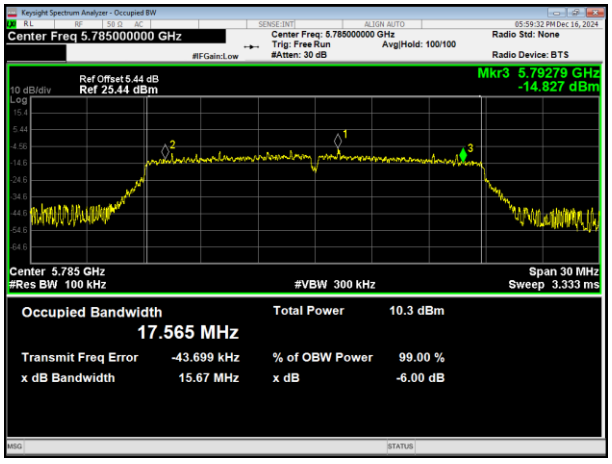
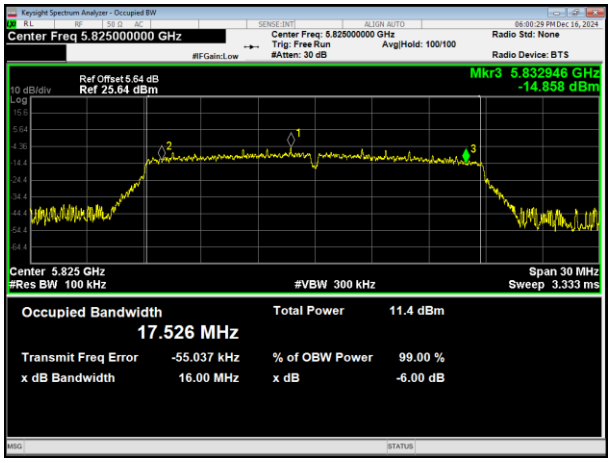
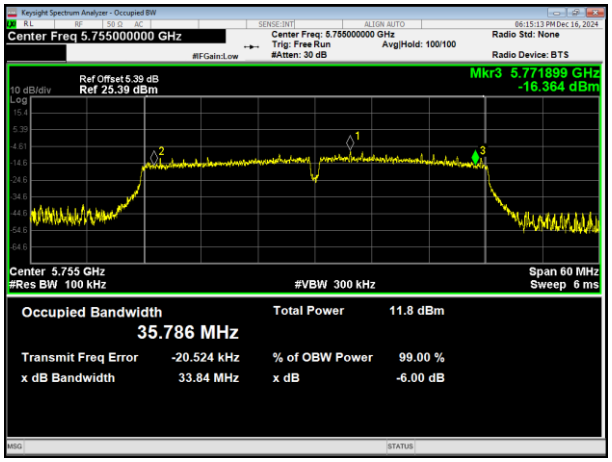
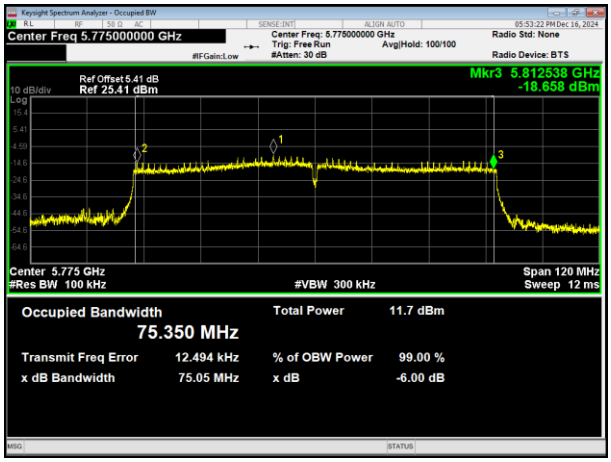
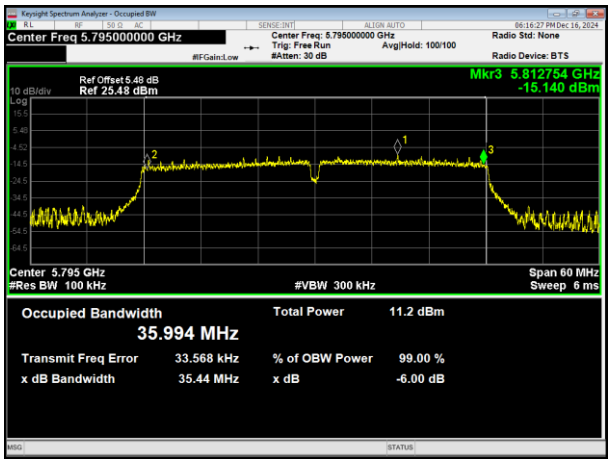
	
5230MHz	

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.

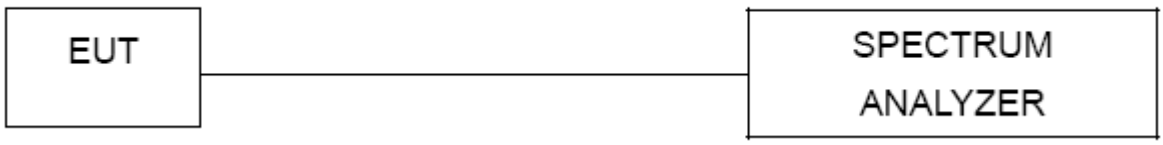
7.1.1. TEST PROCEDURE

1. Set RBW = 1 MHz.
2. Set the video bandwidth (VBW) ≥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



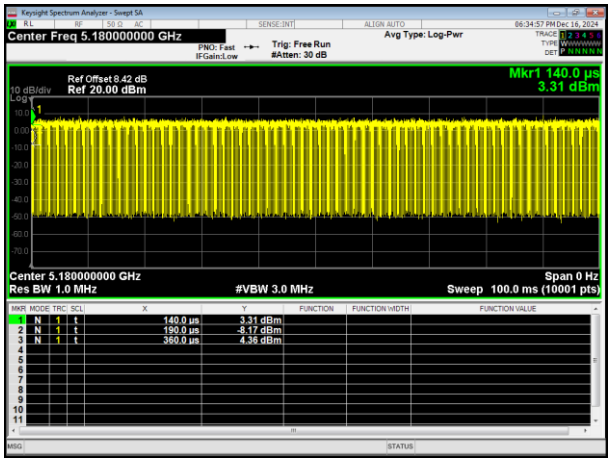
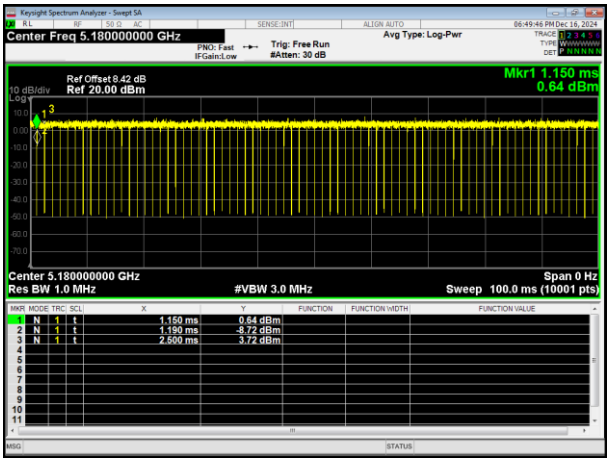
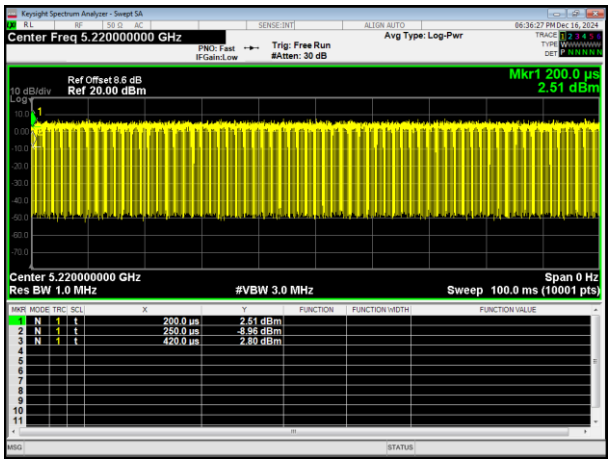
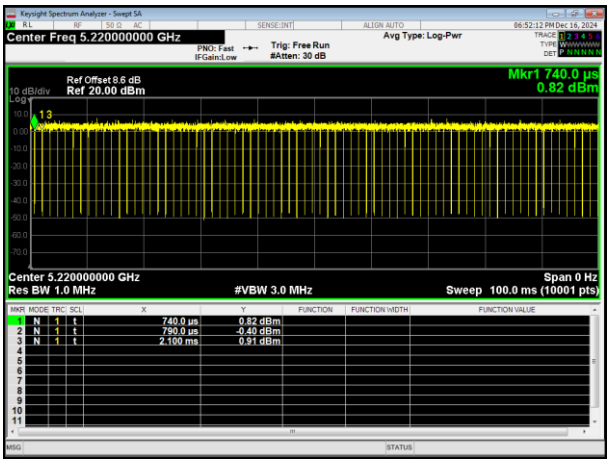
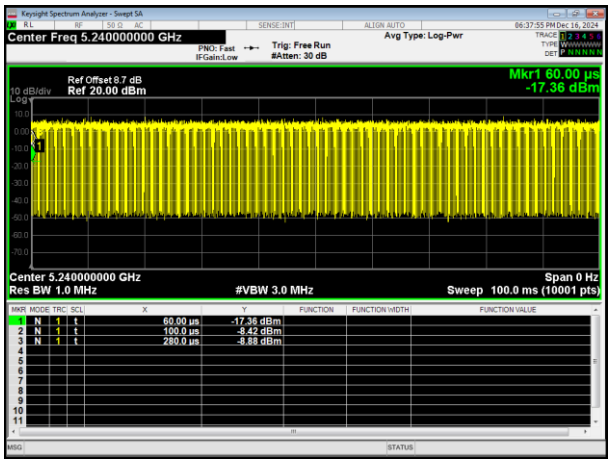
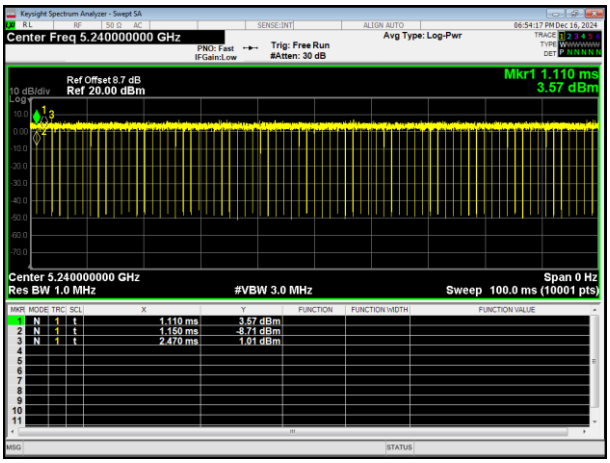
7.1.4. EUT OPERATION CONDITIONS

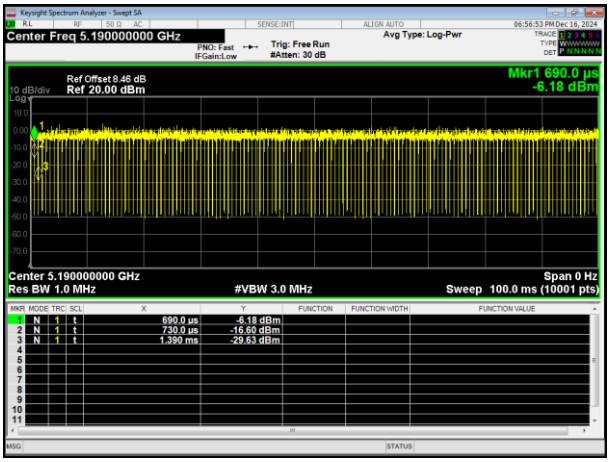
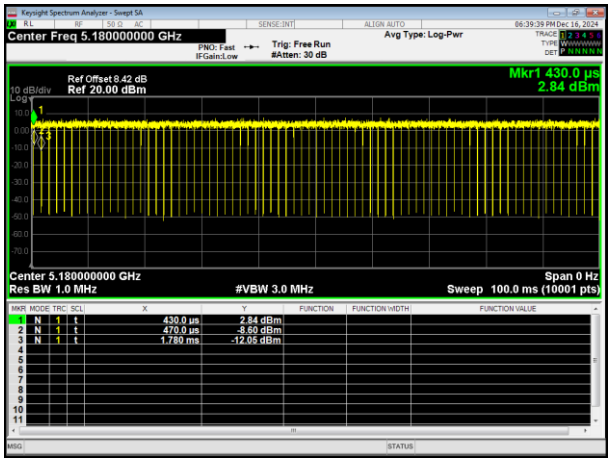
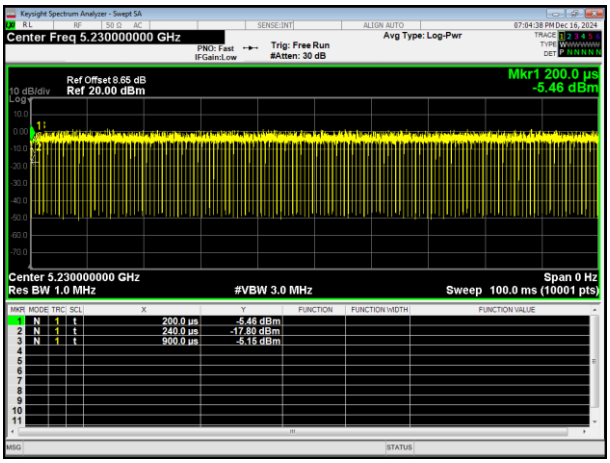
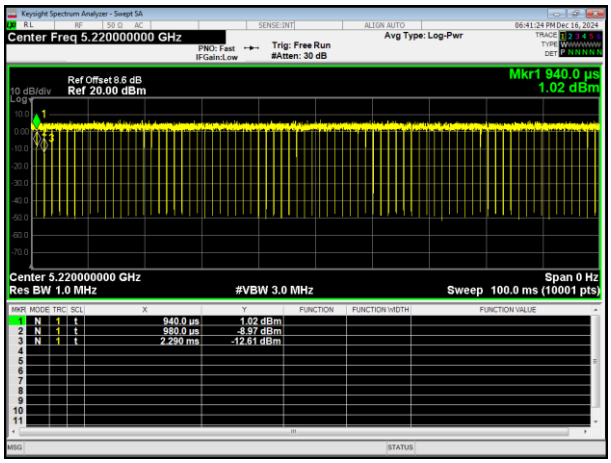
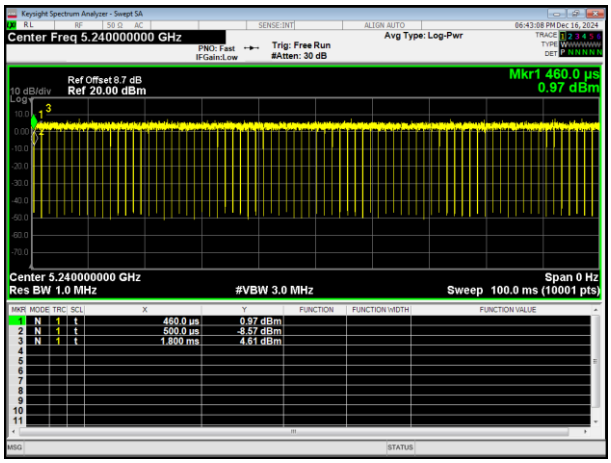
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

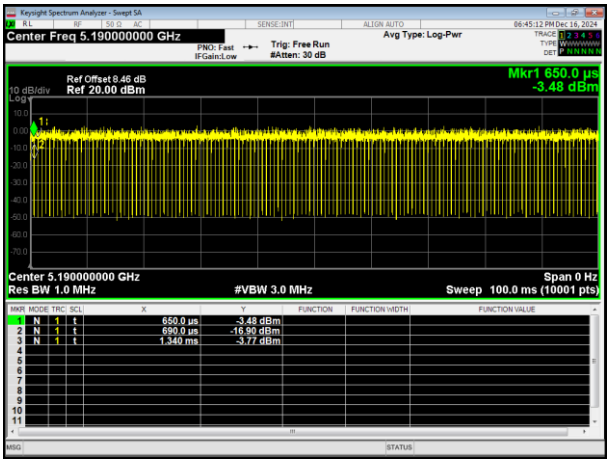
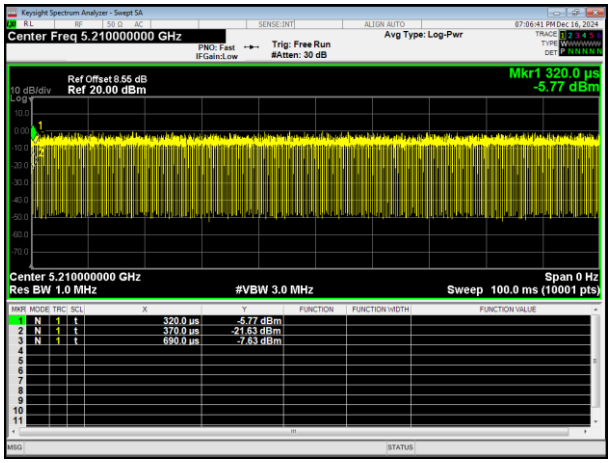
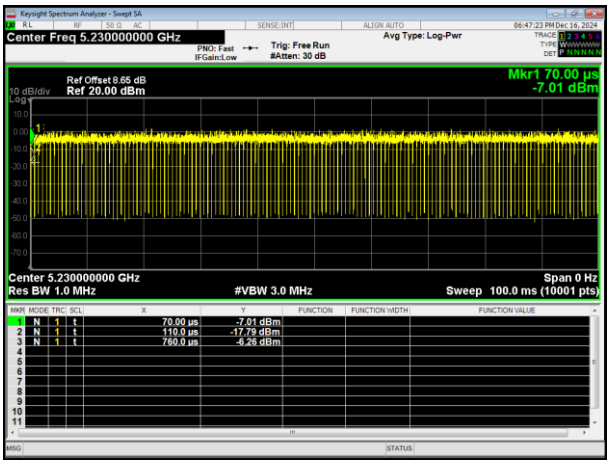
7.1.5. TEST RESULTS

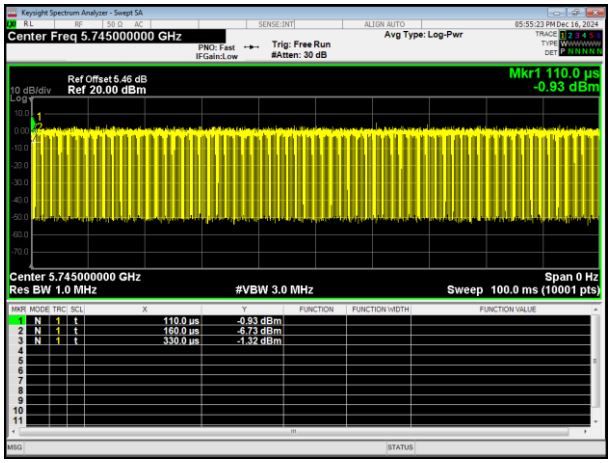
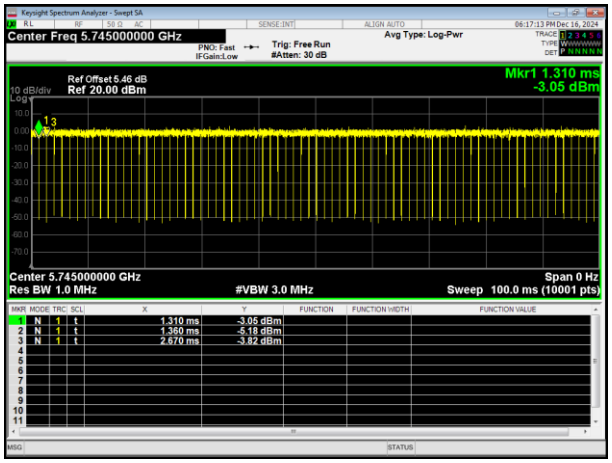
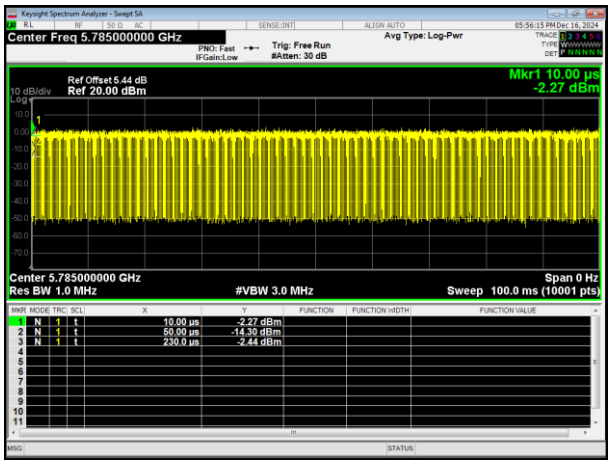
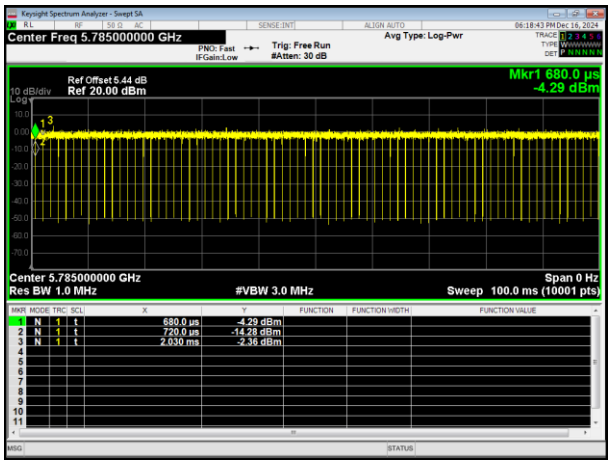
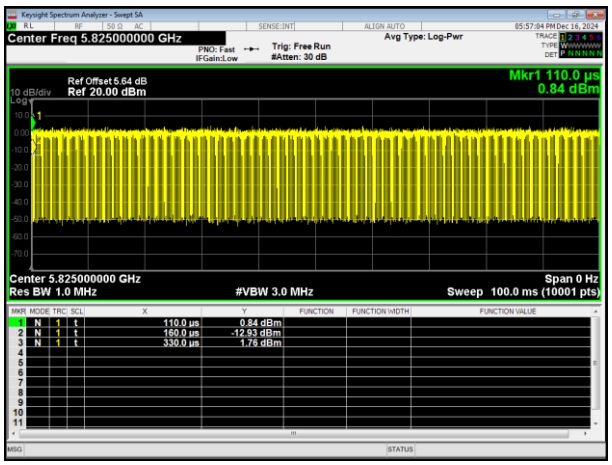
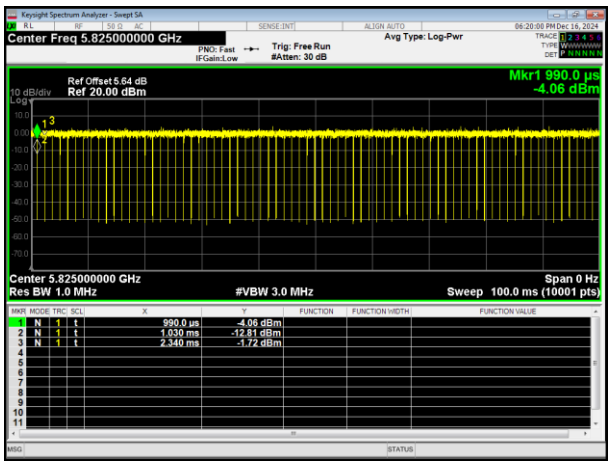
		Test Channel	Duty Cycle(%)	Duty Fator (dB) 10 * log (1/ Duty cycle)
Band 1	802.11a	Low	77.27	1.12
		Middle	77.27	1.12
		High	81.82	0.87
	802.11ac HT20	Low	97.04	0.13
		Middle	96.32	0.16
		High	97.06	0.13
	802.11ac HT40	Low	94.29	0.26
		High	94.29	0.26
	802.11ac HT80	/	86.49	0.63
	802.11n HT20	Low	97.04	0.13
		Middle	97.04	0.13
		High	97.01	0.13
	802.11n HT40	Low	94.2	0.26
		High	94.2	0.26

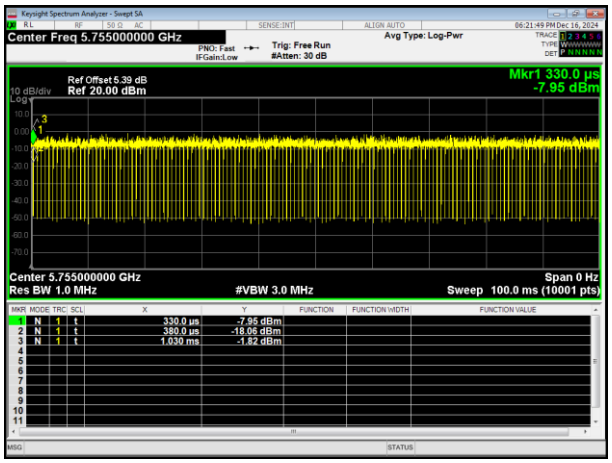
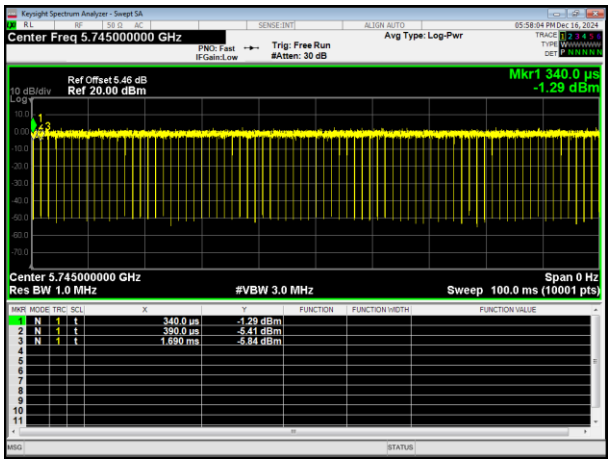
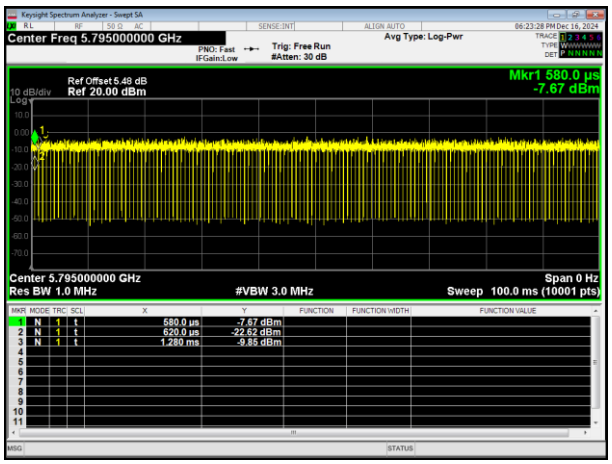
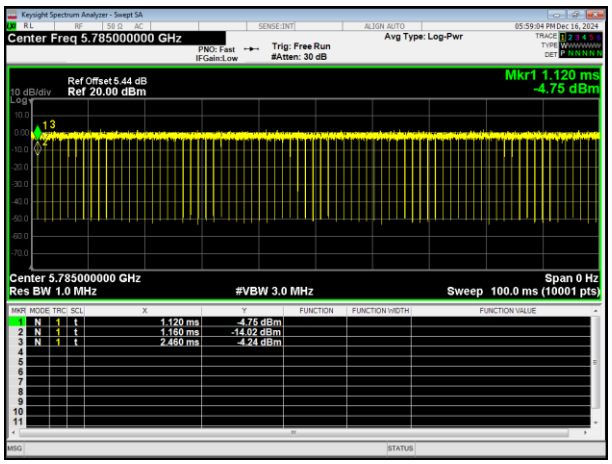
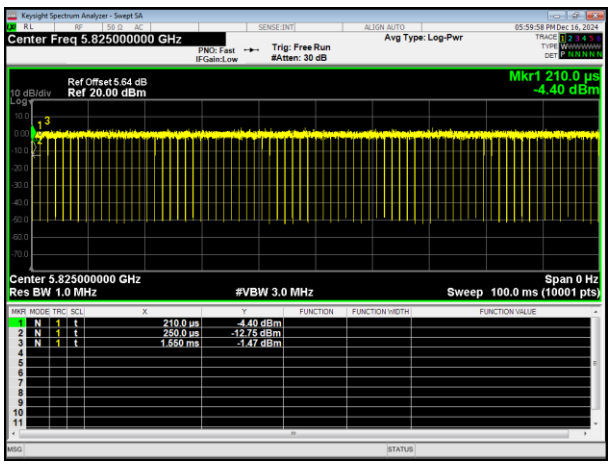
		Test Channel	Duty Cycle(%)	Duty Fator (dB) 10 * log (1/ Duty cycle)
Band 4	802.11a	Low	77.27	1.12
		Middle	81.82	0.87
		High	77.27	1.12
	802.11ac HT20	Low	96.32	0.16
		Middle	97.04	0.13
		High	97.04	0.13
	802.11ac HT40	Low	92.86	0.32
		High	94.29	0.26
	802.11ac HT80	/	89.19	0.5
	802.11n HT20	Low	96.3	0.16
		Middle	97.01	0.13
		High	97.01	0.13
	802.11n HT40	Low	94.2	0.26
		High	94.2	0.26

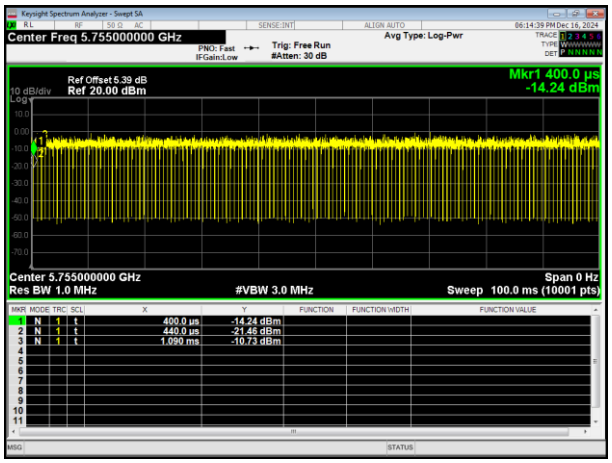
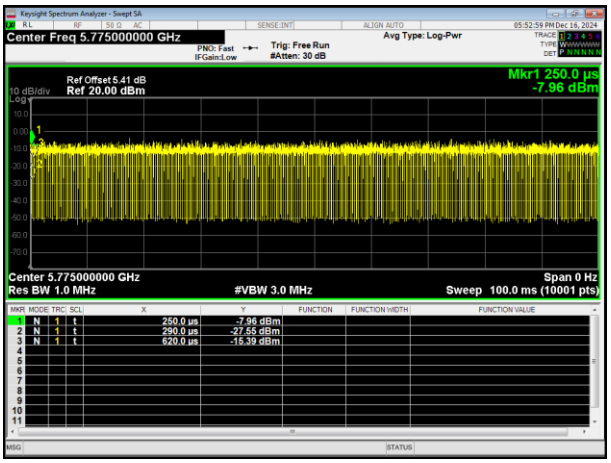
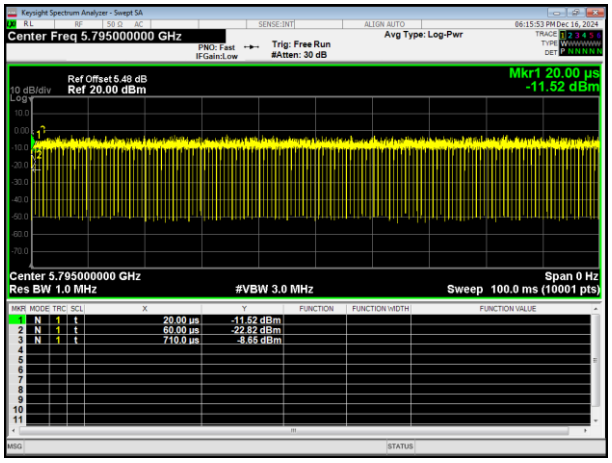
802.11a	802.11ac HT20
	
5180MHz	5180MHz
	
5200MHz	5200MHz
	
5240MHz	5240MHz

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.

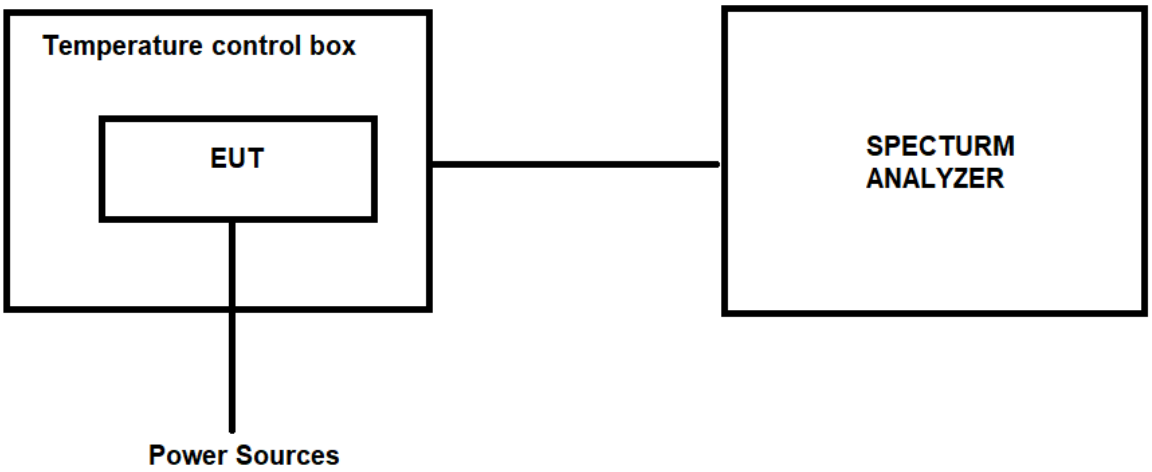
8.1.1. TEST PROCEDURE

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℃	5180	5180.0025	5180.0023	5180.0024	0.4826	0.4440	0.4633
		5220	5220.0034	5220.0014	5220.0025	0.6513	0.2682	0.4789
		5240	5240.0024	5240.0025	5240.0014	0.4580	0.4771	0.2672
		5745	5745.0013	5745.0014	5745.0027	0.2263	0.2437	0.4700
		5785	5785.0023	5785.0023	5785.0026	0.3976	0.3976	0.4494
		5825	5825.0014	5825.0014	5825.0014	0.2403	0.2403	0.2403
4.5V		5180	5180.0051	5180.0015	5180.0028	0.9846	0.2896	0.5405
		5220	5220.0018	5220.0022	5220.0036	0.3448	0.4215	0.6897
		5240	5240.0023	5240.0023	5240.0027	0.4389	0.4389	0.5153
		5745	5745.0012	5745.0014	5745.0015	0.2089	0.2437	0.2611
		5785	5785.0041	5785.0015	5785.0025	0.7087	0.2593	0.4322
		5825	5825.0017	5825.0025	5825.0012	0.2918	0.4292	0.2060
5V	25℃	5180	5180.0026	5180.0014	5180.0025	0.5019	0.2703	0.4826
		5220	5220.0014	5220.0039	5220.0014	0.2682	0.7471	0.2682
		5240	5240.0052	5240.0014	5240.0022	0.9924	0.2672	0.4198
		5745	5745.0054	5745.0022	5745.0041	0.9399	0.3829	0.7137
		5785	5785.0036	5785.0015	5785.0023	0.6223	0.2593	0.3976
		5825	5825.0018	5825.0013	5825.0041	0.3090	0.2232	0.7039
5.5V	50℃	5180	5180.0014	5180.0038	5180.0025	0.2703	0.7336	0.4826
		5220	5220.0036	5220.0044	5220.0024	0.6897	0.8429	0.4598
		5240	5240.0051	5240.0023	5240.0023	0.9733	0.4389	0.4389
		5745	5745.0021	5745.0041	5745.0024	0.3655	0.7137	0.4178
		5785	5785.0028	5785.0026	5785.0022	0.4840	0.4494	0.3803
		5825	5825.0044	5825.0041	5825.0023	0.7554	0.7039	0.3948
4.5V	50℃	5180	5180.0036	5180.0025	5180.0024	0.6950	0.4826	0.4633
		5220	5220.0051	5220.0011	5220.0023	0.9770	0.2107	0.4406
		5240	5240.0017	5240.0023	5240.0041	0.3244	0.4389	0.7824
		5745	5745.0014	5745.0025	5745.0021	0.2437	0.4352	0.3655
		5785	5785.0054	5785.0028	5785.0023	0.9334	0.4840	0.3976
		5825	5825.0039	5825.0036	5825.0041	0.6695	0.6180	0.7039

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℃	5190	5190.0025	5190.0025	0.4817	0.4817
		5230	5230.0036	5230.0036	0.6883	0.6883
		5755	5755.0026	5755.0012	0.4518	0.2085
		5795	5795.0052	5795.0025	0.8973	0.4314
4.5V		5190	5190.0014	5190.0024	0.2697	0.4624
		5230	5230.0046	5230.0048	0.8795	0.9178
		5755	5755.0033	5755.0023	0.5734	0.3997
		5795	5795.0041	5795.0044	0.7075	0.7593
5V	25℃	5190	5190.0025	5190.0023	0.4817	0.4432
		5230	5230.0041	5230.0032	0.7839	0.6119
		5755	5755.0023	5755.0014	0.3997	0.2433
		5795	5795.0011	5795.0034	0.1898	0.5867
5.5V	50℃	5190	5190.0012	5190.0021	0.2312	0.4046
		5230	5230.0014	5230.0012	0.2677	0.2294
		5755	5755.0032	5755.0023	0.5560	0.3997
		5795	5795.0026	5795.0035	0.4487	0.6040
4.5V	50℃	5190	5190.0025	5190.0014	0.4817	0.2697
		5230	5230.0014	5230.0012	0.2677	0.2294
		5755	5755.0023	5755.0014	0.3997	0.2433
		5795	5795.0012	5795.0015	0.2071	0.2588

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (PPM)
			802.11ac HT80	802.11ac HT80
5.5V	-20℃	5210	5210.0002	0.0384
		5775	5775.0014	0.2424
4.5V		5210	5210.0023	0.4415
		5775	5775.0043	0.7446
5V	25℃	5210	5210.0014	0.2687
		5775	5775.0032	0.5541
5.5V	50℃	5210	5210.0047	0.9021
		5775	5775.0012	0.2078
4.5V	50℃	5210	5210.0036	0.6910
		5775	5775.0047	0.8139

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 ※※※※※