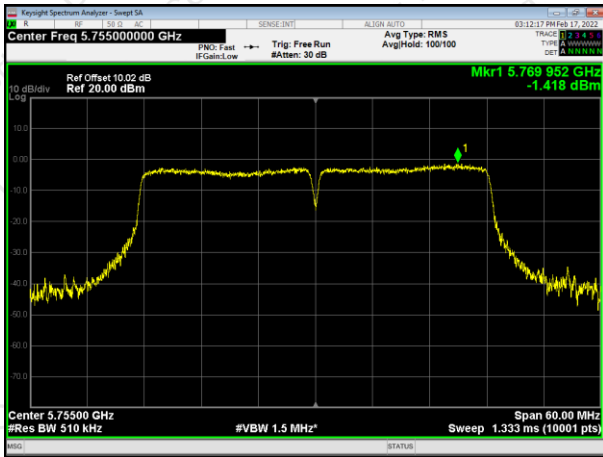
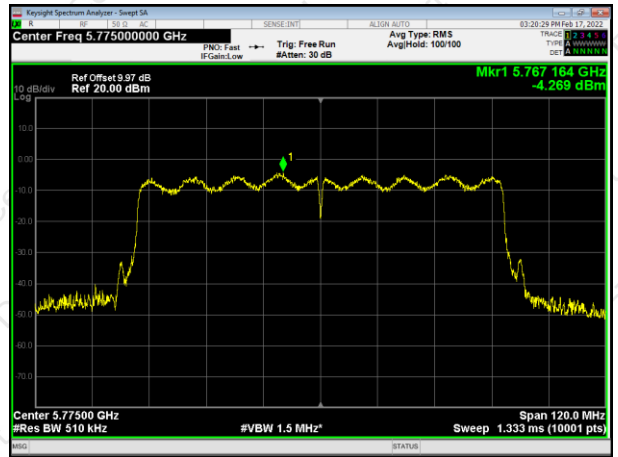




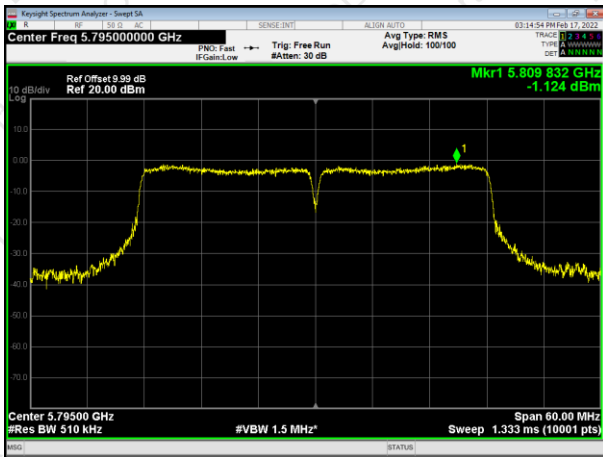
802.11ac HT40



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

Table with 2 columns: Spectrum Parameters, Setting. Rows include RBW (100KHz), VBW (300KHz), Span (30MHz, 60MHz, 120MHz), Sweep Time (Auto), Detector (Peak), Trace Mode (Max Hold).

Table with 2 columns: Spectrum Parameters, Setting. Rows include RBW (approximately 1% of the emission bandwidth), VBW (>RBW), Span (30MHz, 60MHz, 120MHz), Sweep Time (Auto), Detector (Peak), Trace Mode (Max Hold).

Table with 2 columns: Spectrum Parameters, Setting. Rows include 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





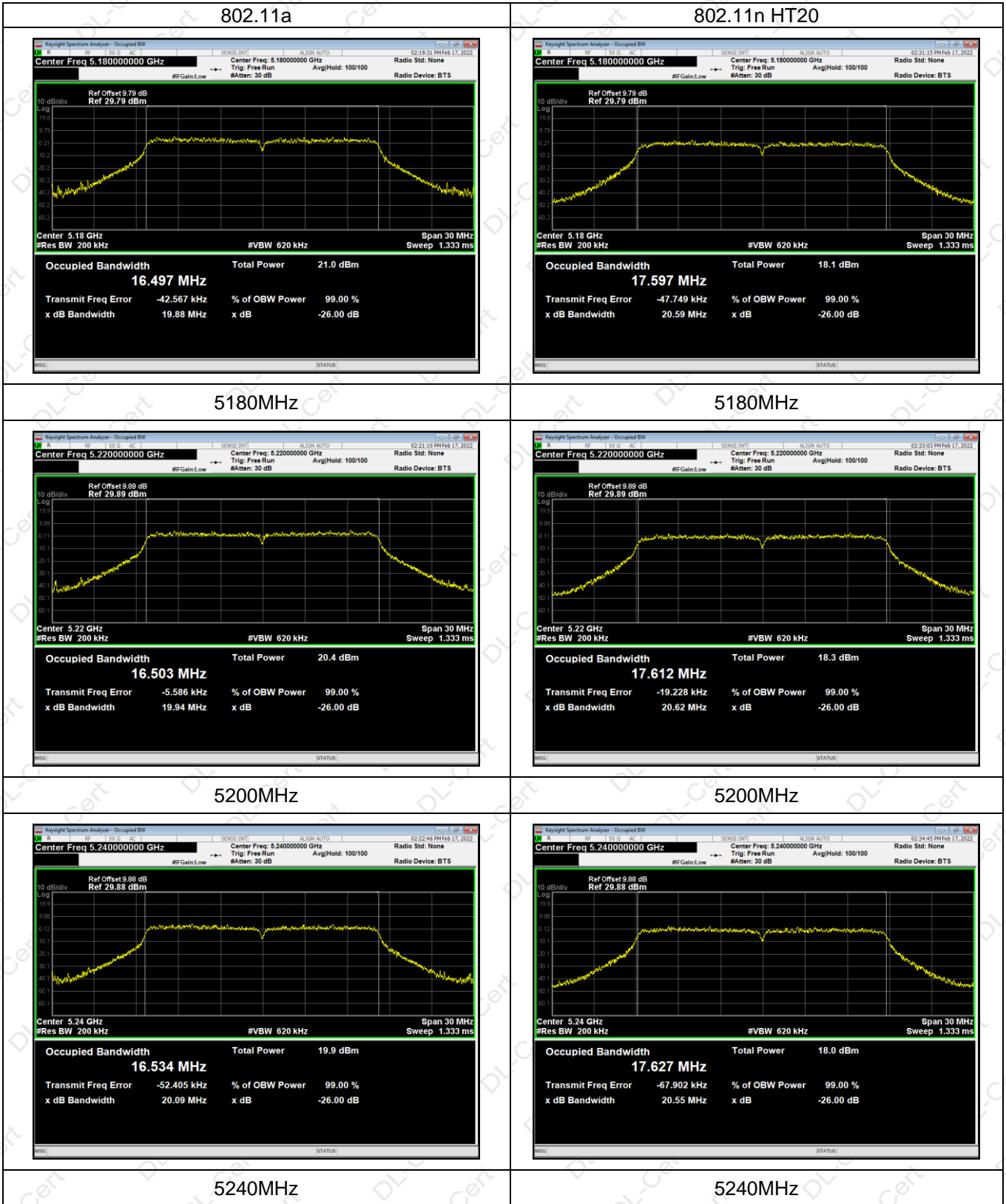
6.1.4 EUT OPERATION CONDITIONS

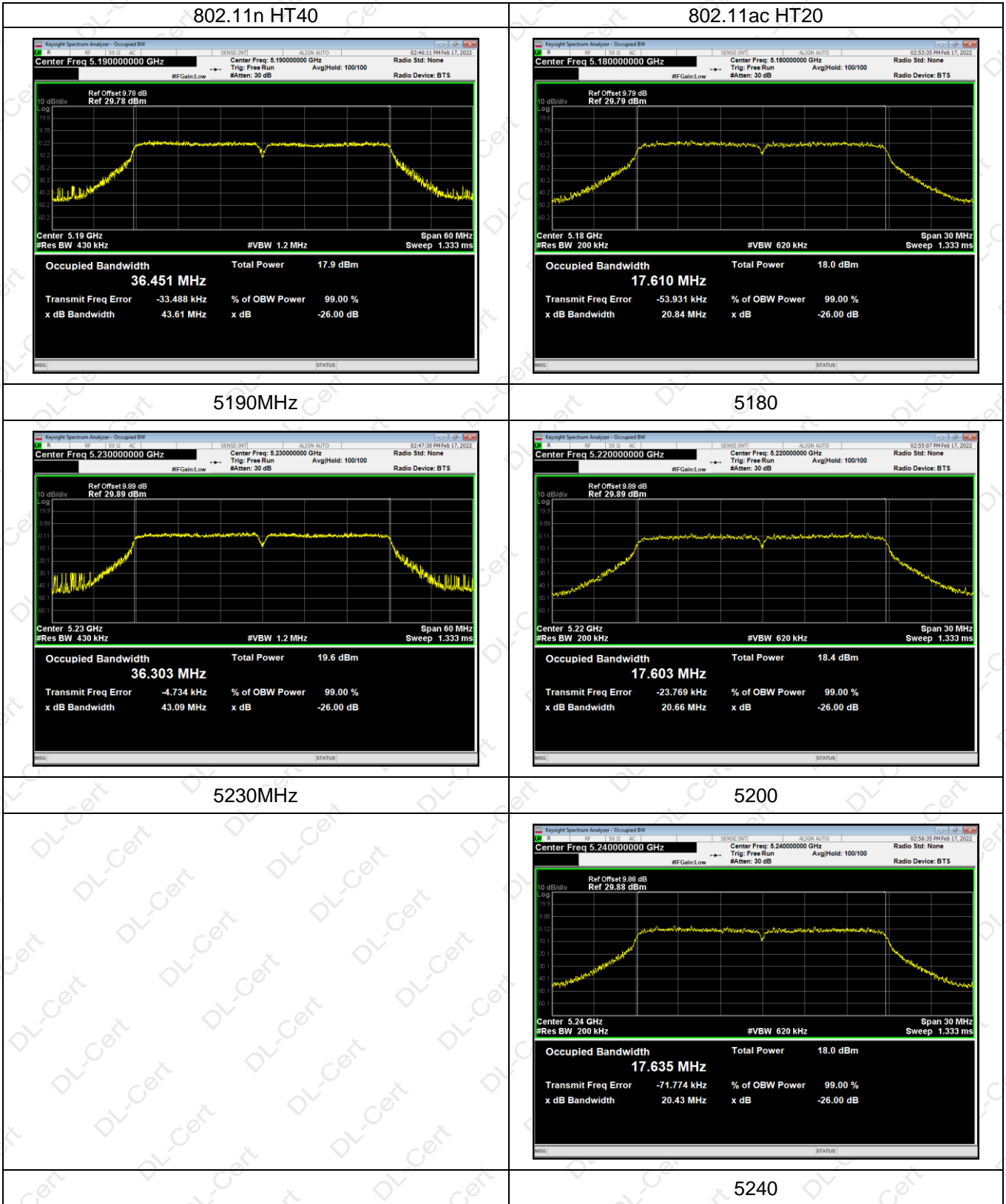
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

		Test Channel	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Result
Band 1	802.11a	Low	19.88	16.497	Pass
		Middle	19.94	16.503	Pass
		High	20.09	16.534	Pass
	802.11n HT20	Low	20.59	17.597	Pass
		Middle	20.62	17.612	Pass
		High	20.55	17.627	Pass
	802.11n HT40	Low	43.61	36.451	Pass
		High	43.09	36.303	Pass
	802.11ac HT20	Low	20.84	17.610	Pass
		Middle	20.66	17.603	Pass
		High	20.43	17.635	Pass
	802.11ac HT40	Low	42.82	36.399	Pass
High		41.96	36.308	Pass	
802.11ac HT80	/	82.68	75.510	Pass	

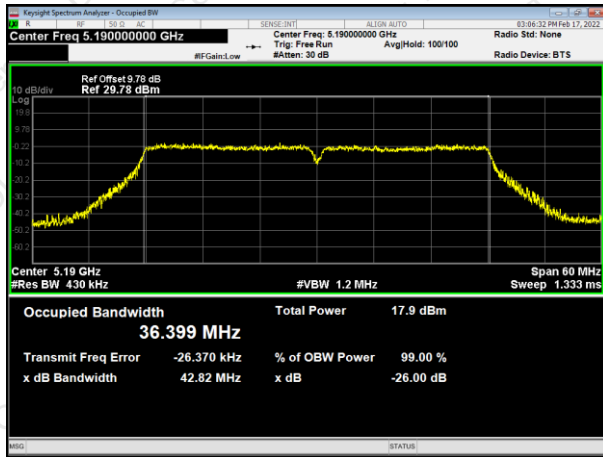
		Test Channel	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	6dB Bandwidth Limit (MHz)	Result
Band 4	802.11a	Low	16.36	16.432	>0.5	Pass
		Middle	16.32	16.426	>0.5	Pass
		High	16.33	16.434	>0.5	Pass
	802.11n HT20	Low	17.27	17.650	>0.5	Pass
		Middle	16.81	17.630	>0.5	Pass
		High	17.18	17.641	>0.5	Pass
	802.11n HT40	Low	36.03	36.187	>0.5	Pass
		High	36.04	36.250	>0.5	Pass
	802.11ac HT20	Low	17.29	17.644	>0.5	Pass
		Middle	16.54	17.679	>0.5	Pass
		High	16.88	17.652	>0.5	Pass
	802.11ac HT40	Low	36.00	36.178	>0.5	Pass
		High	36.30	36.225	>0.5	Pass
	802.11ac HT80	/	75.14	75.367	>0.5	Pass



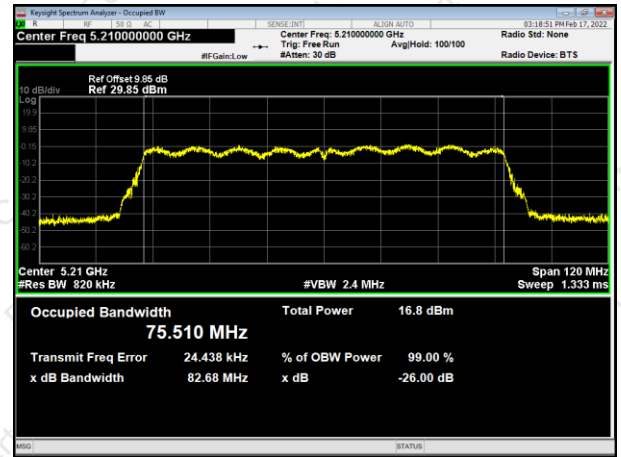




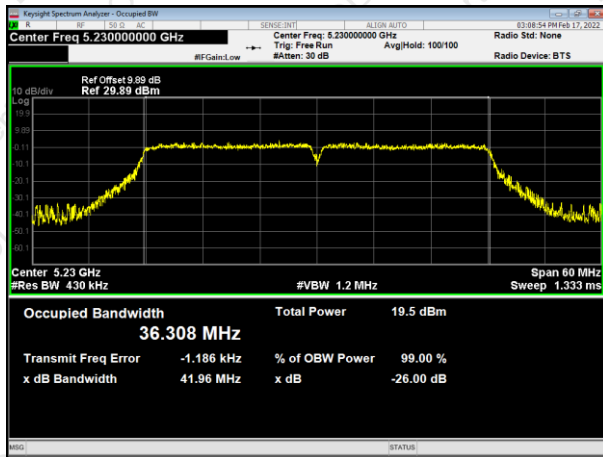
802.11ac HT40



802.11ac HT80



5190MHz

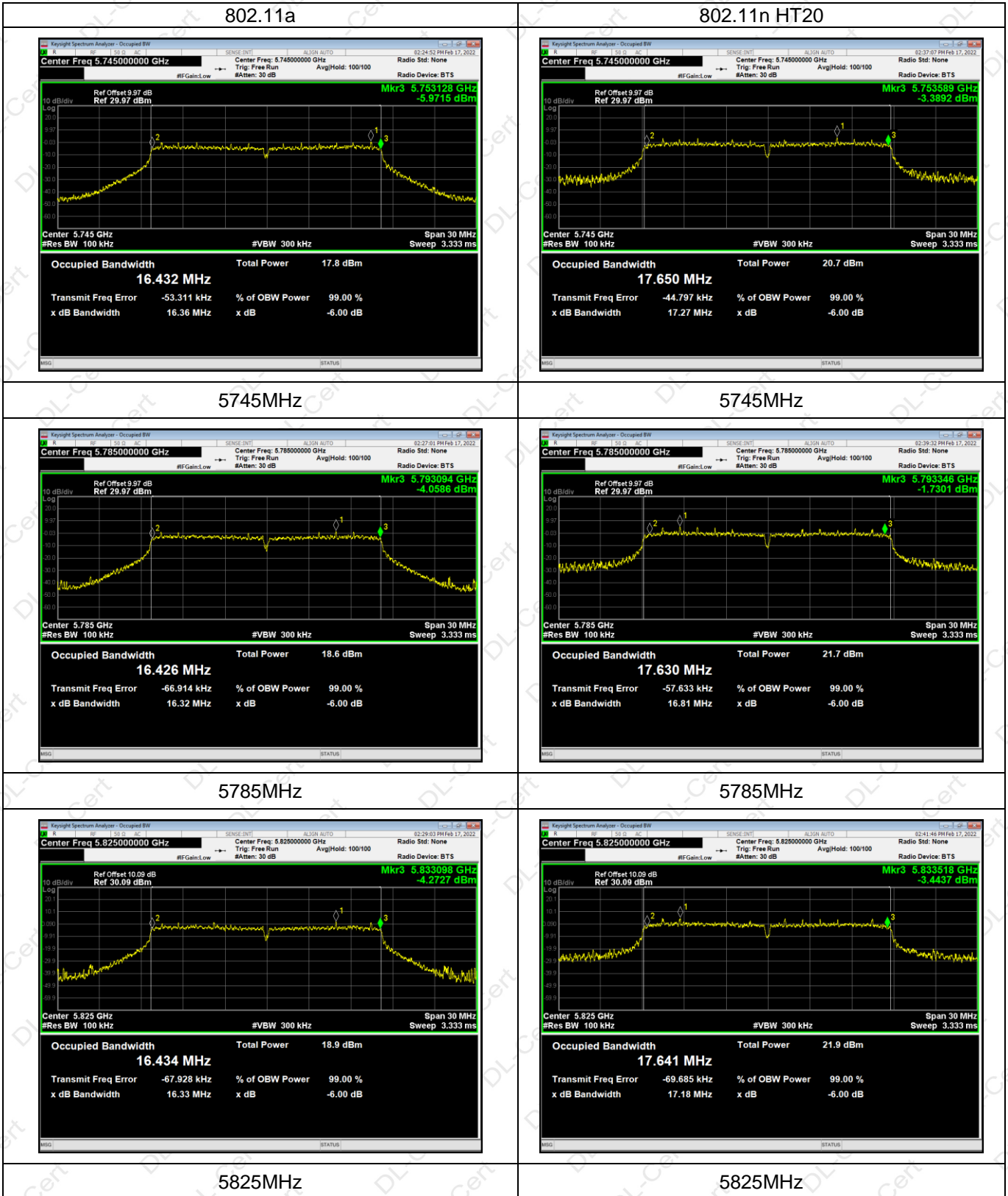


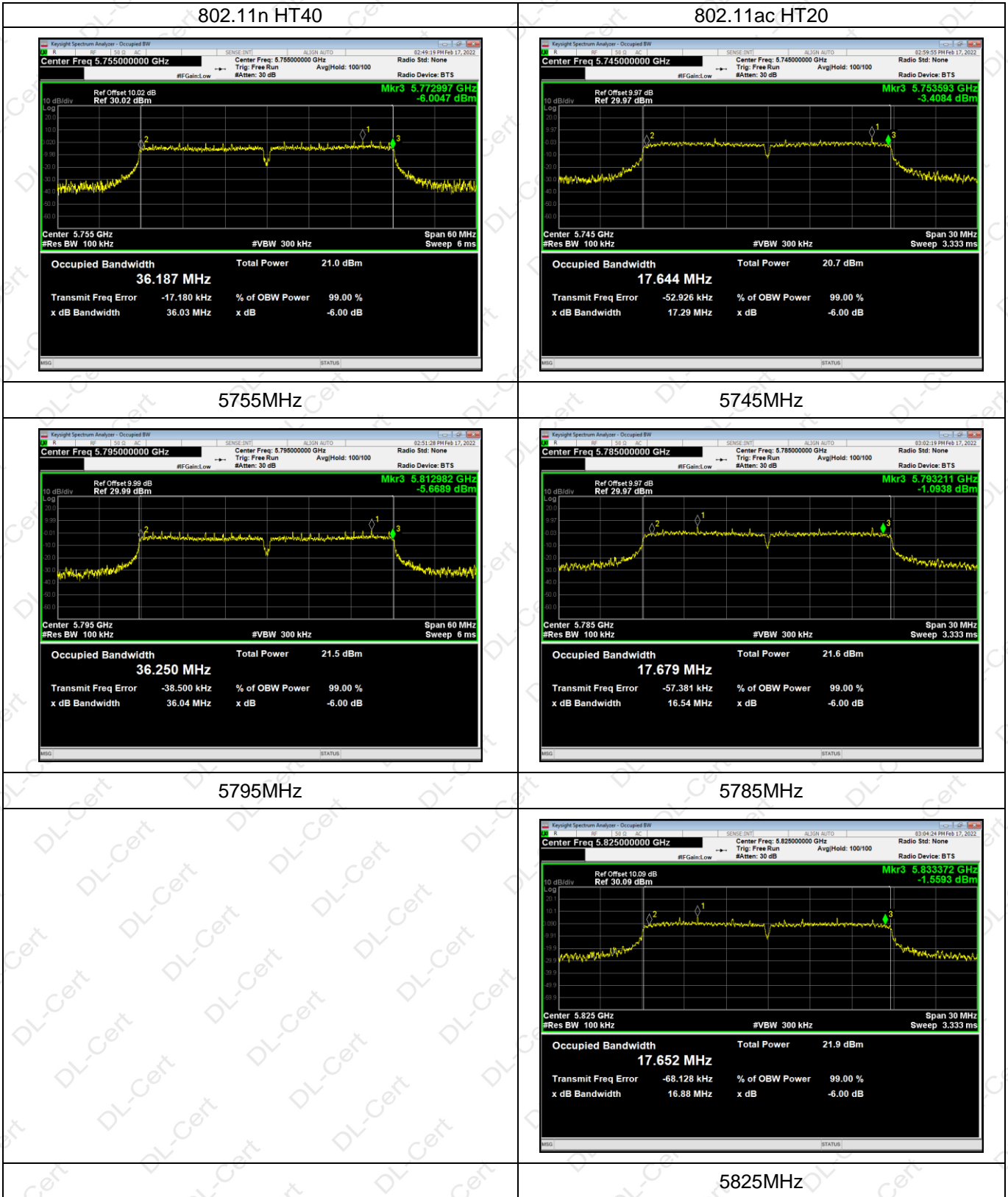
5210

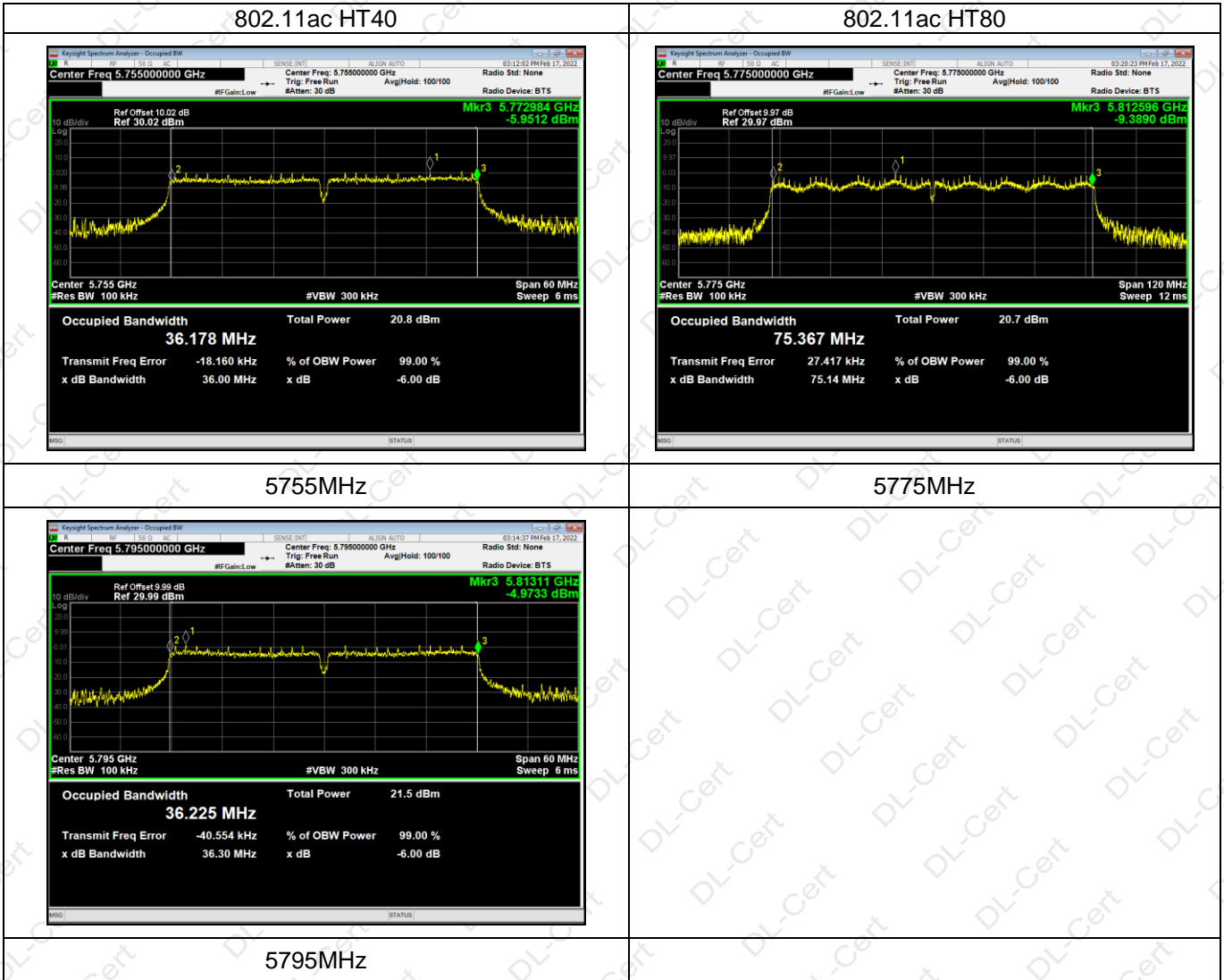


5230MHz











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.

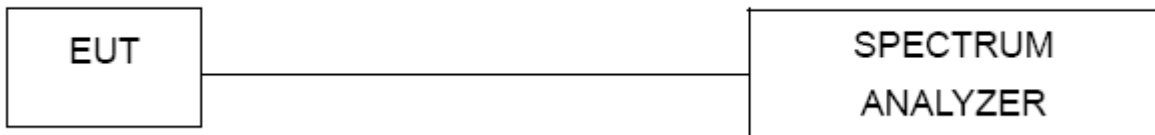
7.1.1 TEST PROCEDURE

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

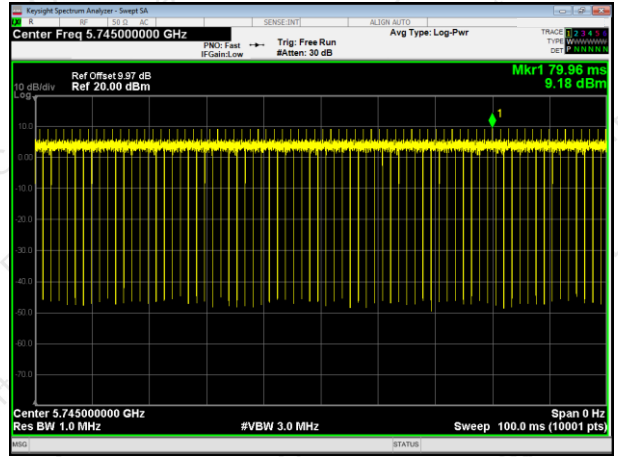
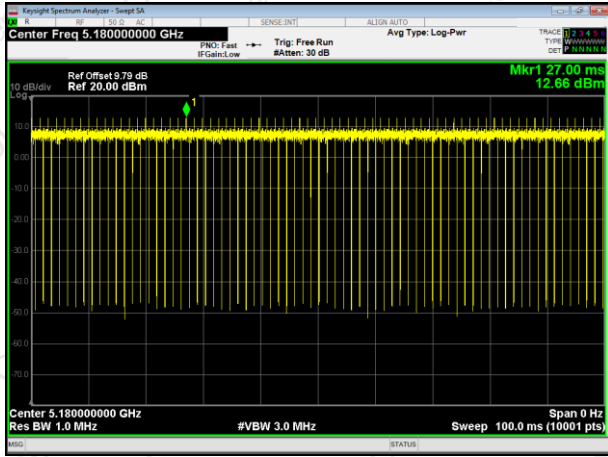
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**7.1.5 TEST RESULTS**

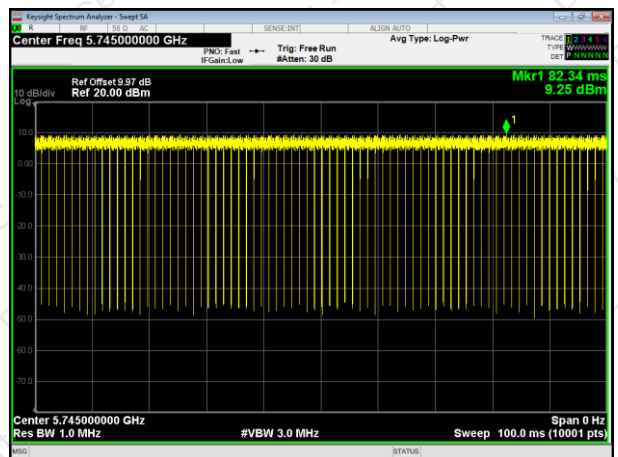
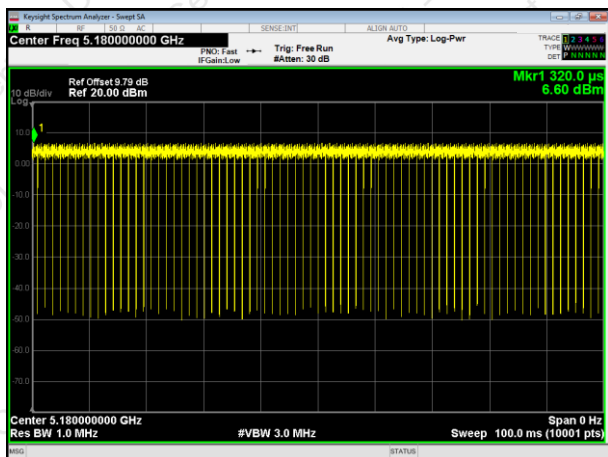
Operation Mode		Duty Cycle(%)	Duty Fator (dB) $10 * \log (1/ \text{Duty cycle})$
Band 1	802.11a	97.13	0.13
	802.11n(HT20)	97.00	0.13
	802.11n(HT40)	94.16	0.26
	802.11ac(HT20)	96.91	0.14
	802.11ac(HT40)	94.05	0.27
	802.11ac(HT80)	88.84	0.51
Band 4	802.11a	97.12	0.13
	802.11n(HT20)	97.00	0.13
	802.11n(HT40)	94.04	0.27
	802.11ac(HT20)	96.92	0.14
	802.11ac(HT40)	94.06	0.27
	802.11ac(HT80)	88.88	0.51



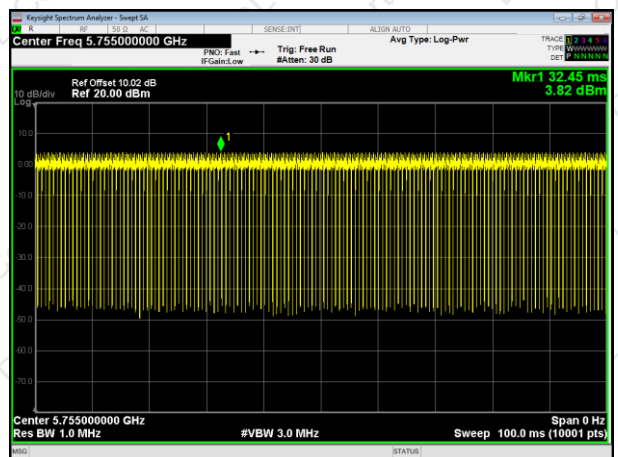
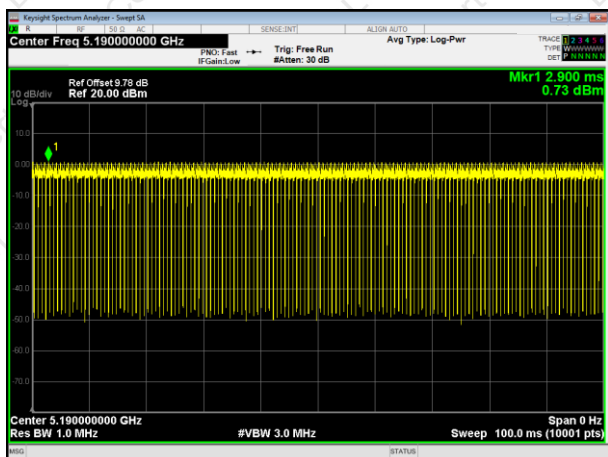
802.11a



802.11n HT20

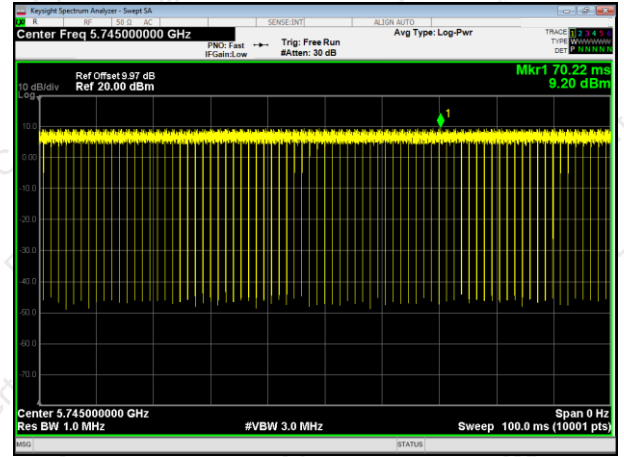
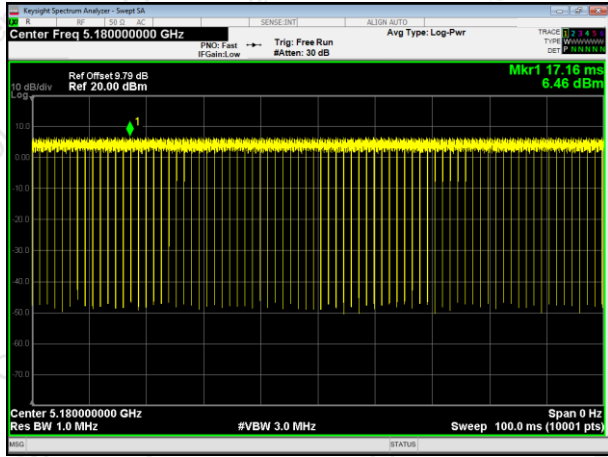


802.11n HT40

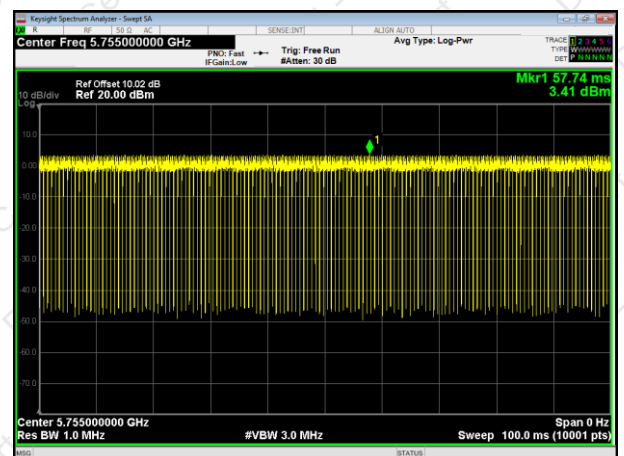
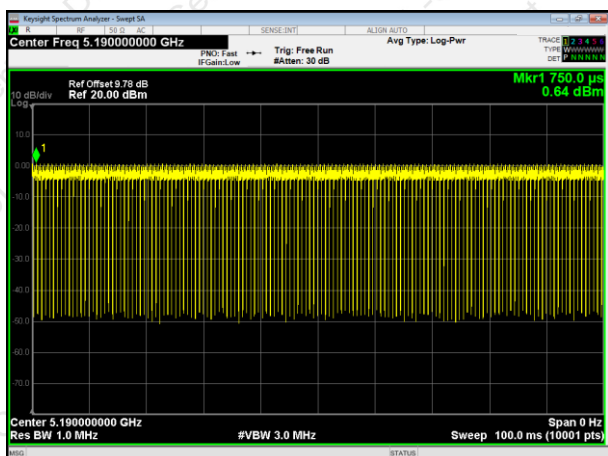




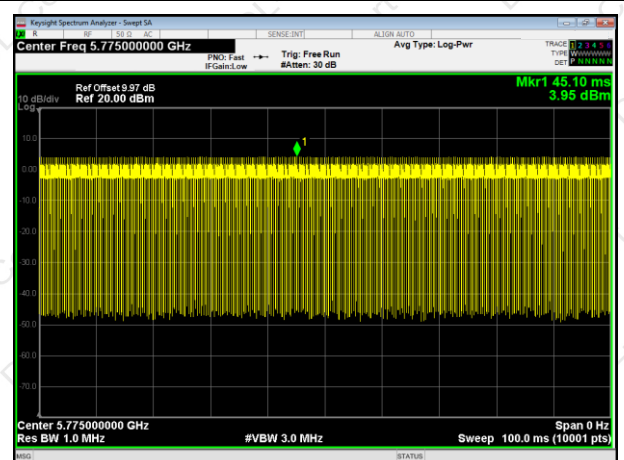
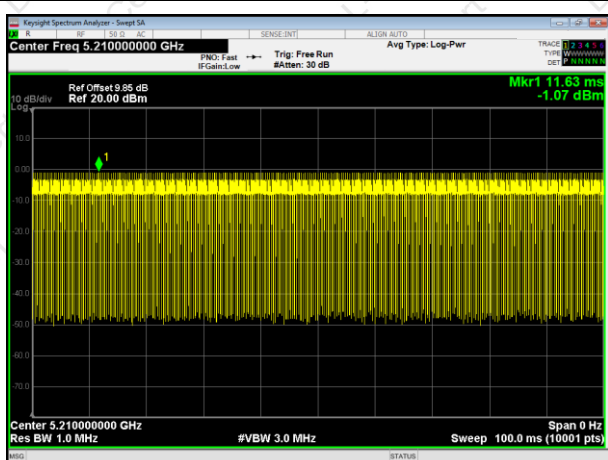
802.11ac HT20



802.11ac HT40



802.11ac HT80





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.

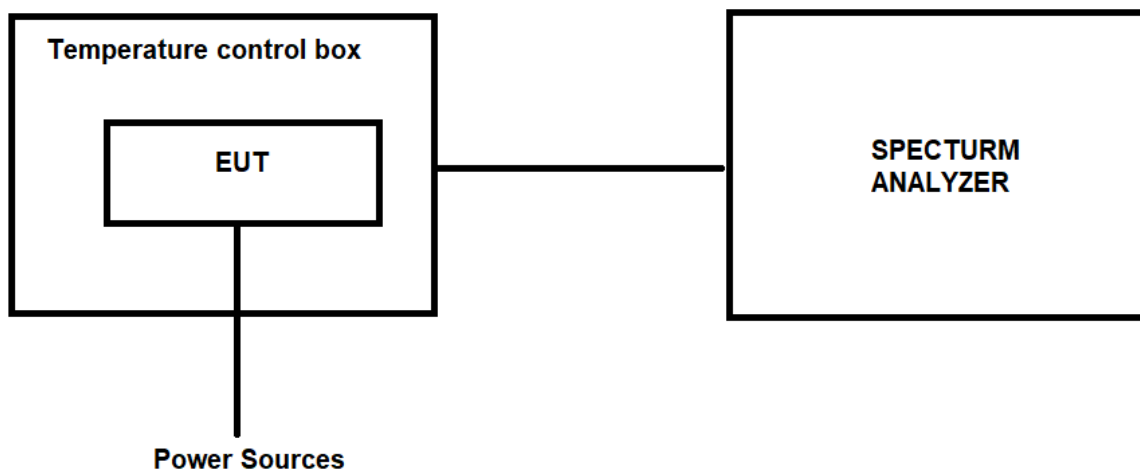
8.1.1 TEST PROCEDURE

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 (MHz)	Spectrum Frequency (MHz)			Δ Frequency (MHz)		
			802.11a	802.11n HT20	802.11ac HT20	802.11a	802.11n HT20	802.11ac HT20
132V	-20°C	5180.000	5180.0324	5180.0326	5180.0363	-0.0324	-0.0326	-0.0363
		5220.000	5220.0315	5220.0351	5220.0311	-0.0315	-0.0351	-0.0311
		5240.000	5240.0233	5240.0236	5240.0285	-0.0233	-0.0236	-0.0285
		5745.000	5745.0328	5745.0358	5745.0336	-0.0328	-0.0358	-0.0336
		5785.000	5785.0348	5785.0327	5785.0354	-0.0348	-0.0327	-0.0354
		5825.000	5825.0363	5825.0346	5825.0326	-0.0363	-0.0346	-0.0326
108V	-20°C	5180.000	5180.0258	5180.0276	5180.0247	-0.0258	-0.0276	-0.0247
		5220.000	5220.0314	5220.0352	5220.0323	-0.0314	-0.0352	-0.0323
		5240.000	5240.0263	5240.0228	5240.0247	-0.0263	-0.0228	-0.0247
		5745.000	5745.0255	5745.0217	5745.0223	-0.0255	-0.0217	-0.0223
		5785.000	5785.0326	5785.0351	5785.0374	-0.0326	-0.0351	-0.0374
		5825.000	5825.0485	5825.0437	5825.0426	-0.0485	-0.0437	-0.0426
120V	25°C	5180.000	5180.0541	5180.0534	5180.0545	-0.0541	-0.0534	-0.0545
		5220.000	5220.02663	5220.0264	5220.0236	-0.0266	-0.0264	-0.0236
		5240.000	5240.0352	5240.0316	5240.0348	-0.0352	-0.0316	-0.0348
		5745.000	5745.0352	5745.0384	5745.0326	-0.0352	-0.0384	-0.0326
		5785.000	5785.0463	5785.0456	5785.0457	-0.0463	-0.0456	-0.0457
		5825.000	5825.0218	5825.0253	5825.0256	-0.0218	-0.0253	-0.0256
132V	50°C	5180.000	5180.0352	5180.0381	5180.0336	-0.0352	-0.0381	-0.0336
		5220.000	5220.0236	5220.0215	5220.0214	-0.0236	-0.0215	-0.0214
		5240.000	5240.0344	5240.0332	5240.0366	-0.0344	-0.0332	-0.0366
		5745.000	5745.0652	5745.0652	5745.0636	-0.0652	-0.0652	-0.0636
		5785.000	5785.0433	5785.0455	5785.0452	-0.0433	-0.0455	-0.0452
		5825.000	5825.0674	5825.0663	5825.0647	-0.0674	-0.0663	-0.0647
108V	50°C	5180.000	5180.0352	5180.0314	5180.0356	-0.0352	-0.0314	-0.0356
		5220.000	5220.0236	5220.0296	5220.0233	-0.0236	-0.0296	-0.0233
		5240.000	5240.0341	5240.0327	5240.0347	-0.0341	-0.0327	-0.0347
		5745.000	5745.0463	5745.0463	5745.0456	-0.0463	-0.0463	-0.0456
		5785.000	5785.0218	5785.0214	5785.0239	-0.0218	-0.0214	-0.0239
		5825.000	5825.0736	5825.0758	5825.0771	-0.0736	-0.0758	-0.0771



Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)		Δ Frequency (MHz)	
			802.11n HT40	802.11ac HT40	802.11n HT40	802.11ac HT40
132V	-20°C	5190.000	5190.0247	5190.0263	-0.0247	-0.0263
		5230.000	5230.0326	5230.0314	-0.0326	-0.0314
		5755.000	5755.0514	5755.0563	-0.0514	-0.0563
		5795.000	5795.0636	5795.0658	-0.0636	-0.0658
108V		5190.000	5190.0252	5190.0244	-0.0252	-0.0244
		5230.000	5230.0344	5230.0363	-0.0344	-0.0363
		5755.000	5755.0263	5755.0633	-0.0263	-0.0633
		5795.000	5795.0418	5795.0485	-0.0418	-0.0485
120V	25°C	5190.000	5190.0263	5190.0247	-0.0263	-0.0247
		5230.000	5230.0647	5230.0663	-0.0647	-0.0663
		5755.000	5755.0236	5755.0258	-0.0236	-0.0258
		5795.000	5795.0514	5795.0547	-0.0514	-0.0547
132V	50°C	5190.000	5190.0652	5190.0655	-0.0652	-0.0655
		5230.000	5230.0566	5230.0563	-0.0566	-0.0563
		5755.000	5755.0447	5755.0455	-0.0447	-0.0455
		5795.000	5795.0336	5795.0328	-0.0336	-0.0328
108V	50°C	5190.000	5190.0552	5190.0547	-0.0552	-0.0547
		5230.000	5230.0347	5230.0356	-0.0347	-0.0356
		5755.000	5755.0336	5755.0328	-0.0336	-0.0328
		5795.000	5795.0428	5795.0456	-0.0428	-0.0456

Test Voltage	Test Temp.	Measured Frequency (MHz)	Spectrum Frequency (MHz)	Δ Frequency (MHz)
			802.11ac HT80	802.11ac HT80
132V	-20°C	5210.000	5210.0156	-0.0156
		5775.000	5775.0141	-0.0141
108V		5210.000	5210.0235	-0.0235
		5775.000	5775.0336	-0.0336
230V	25°C	5210.000	5210.0452	-0.0452
		5775.000	5775.0411	-0.0411
132V	50°C	5210.000	5210.0336	-0.0336
		5775.000	5775.0248	-0.0248
108V	50°C	5210.000	5210.0356	-0.0356
		5775.000	5775.0563	-0.0563



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.

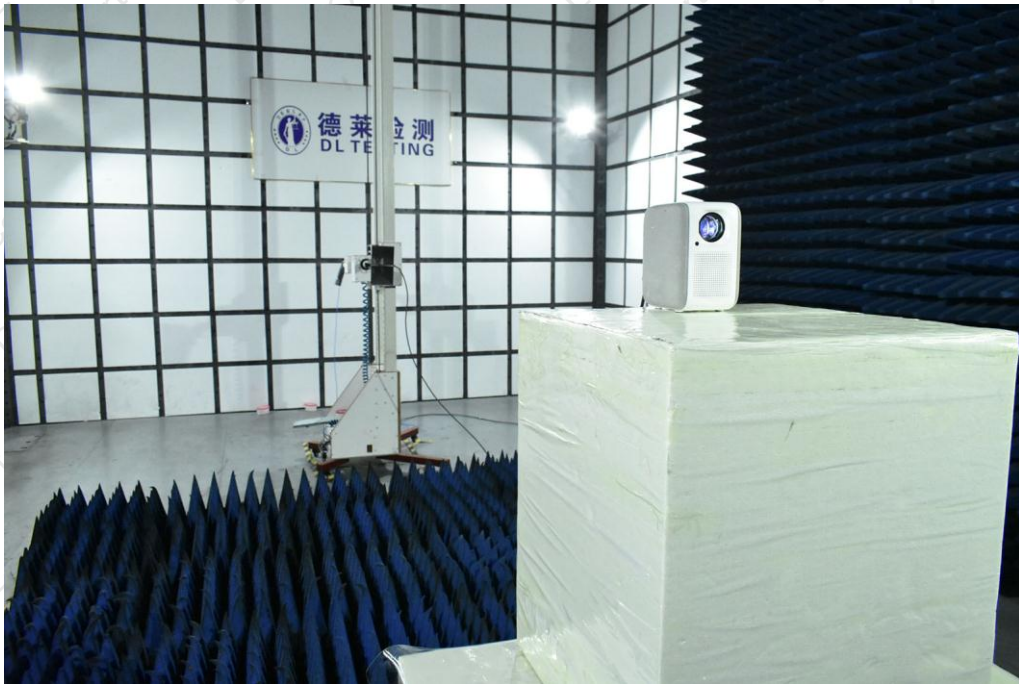
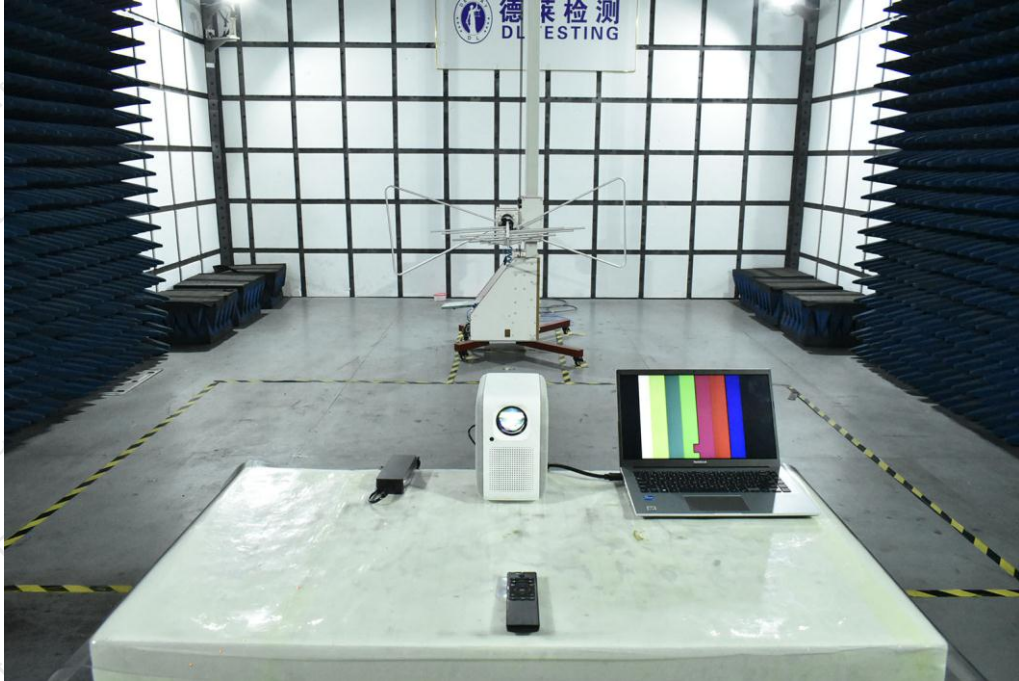
10.2 EUT ANTENNA

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



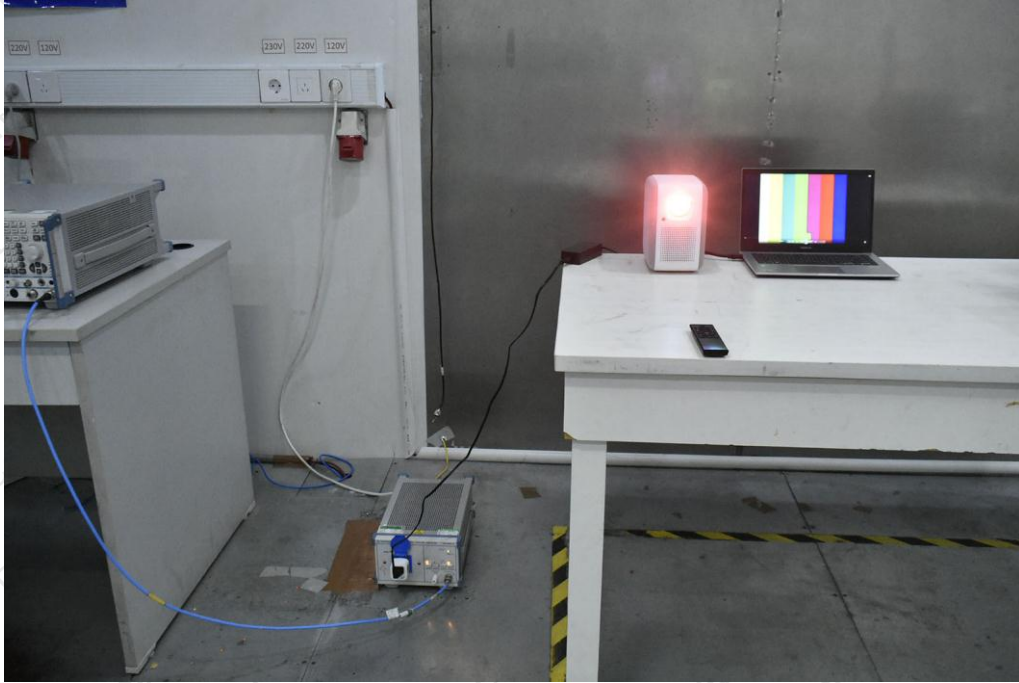
11. TEST SEUUP PHOTO

Radiated Measurement Photos





Conducted Measurement Photos



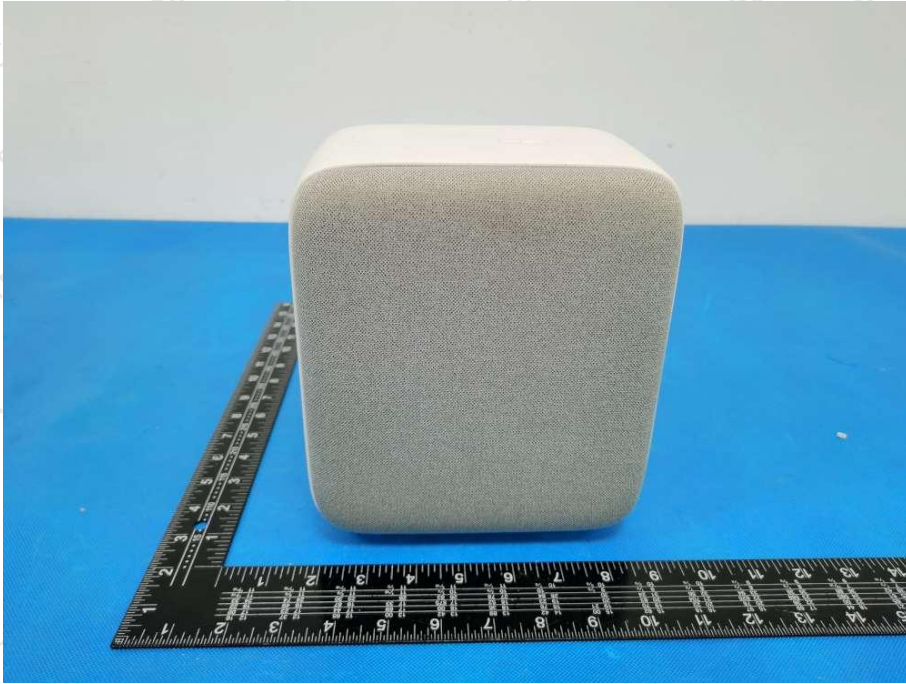


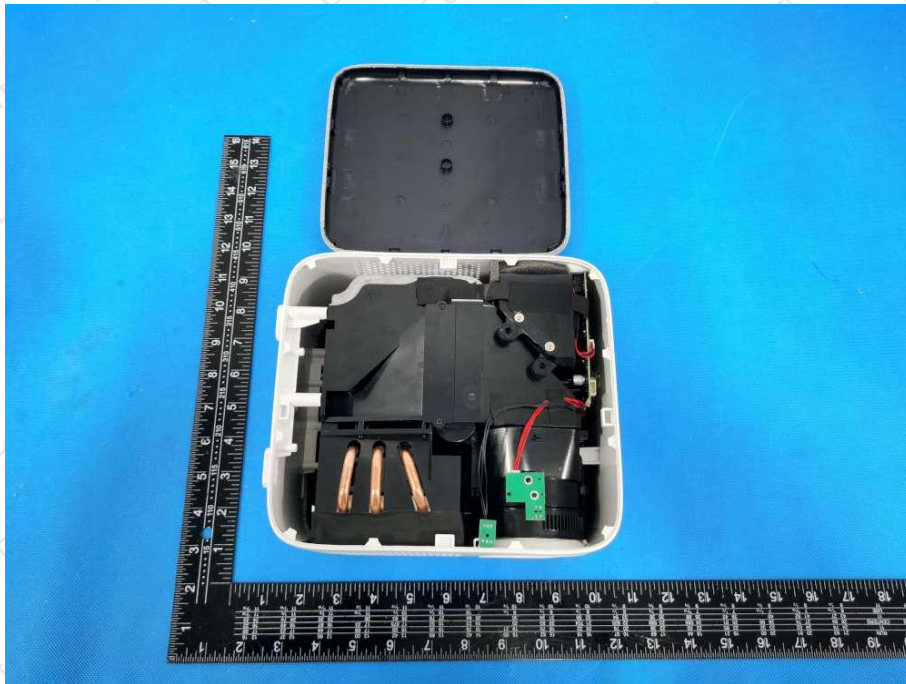
12. EUT PHOTO

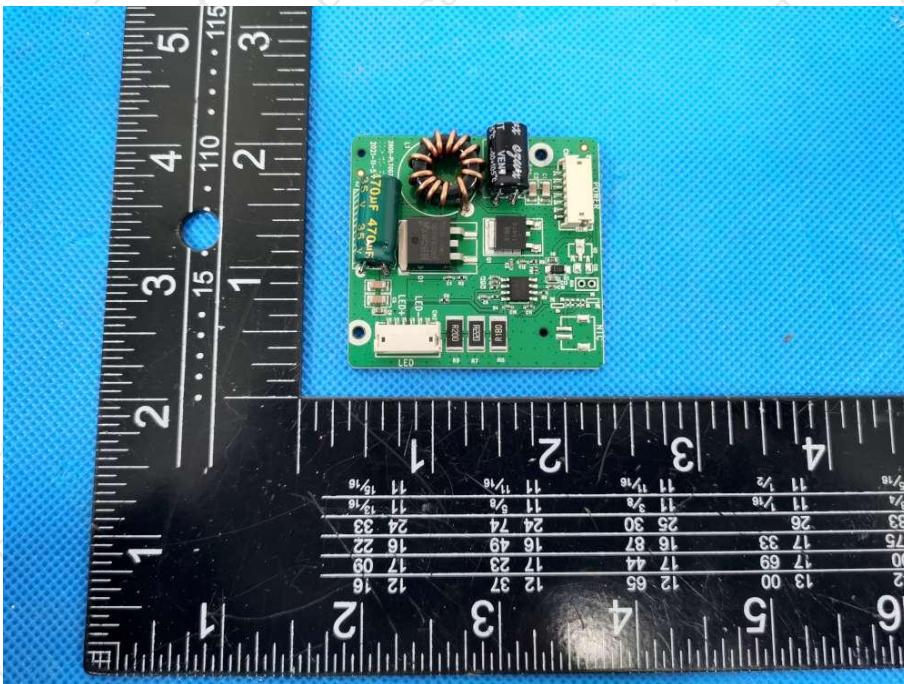
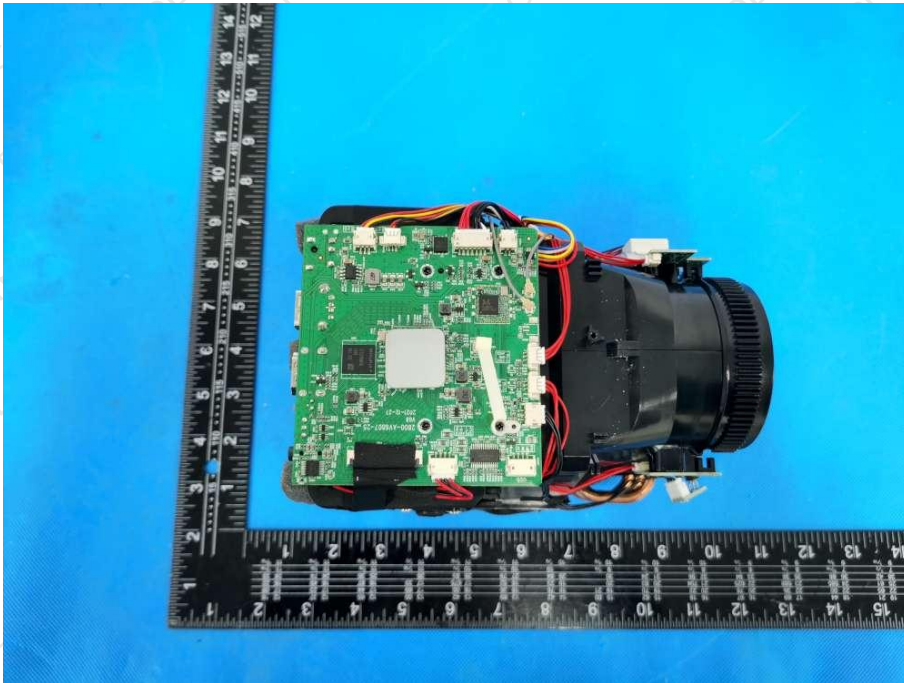


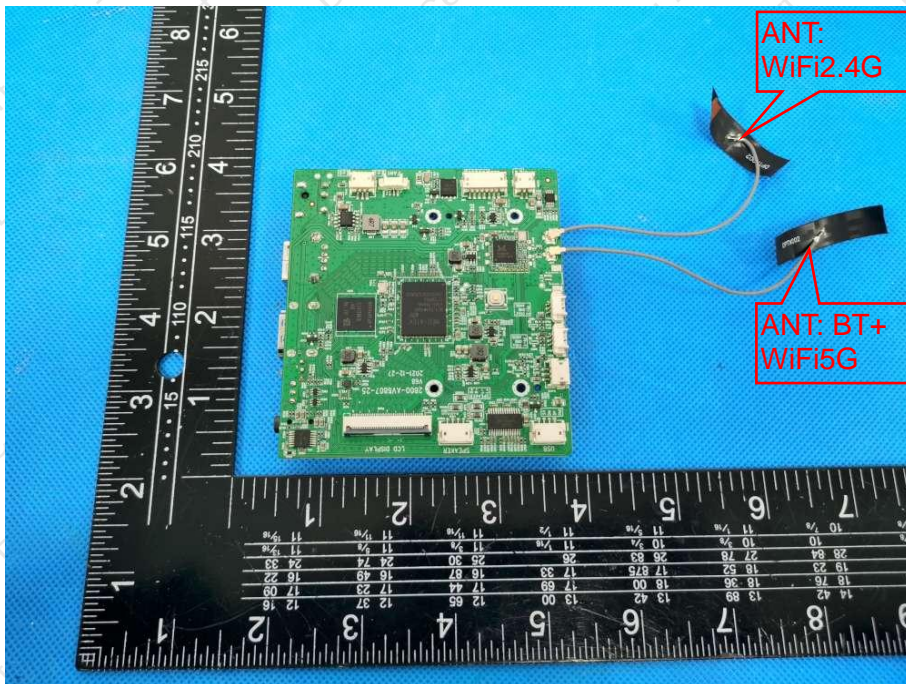
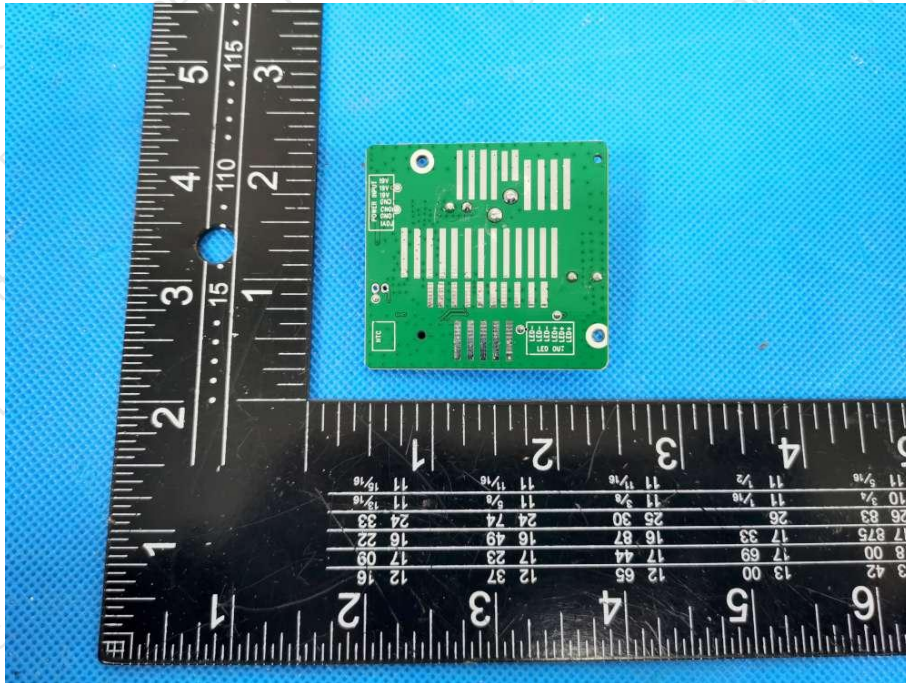


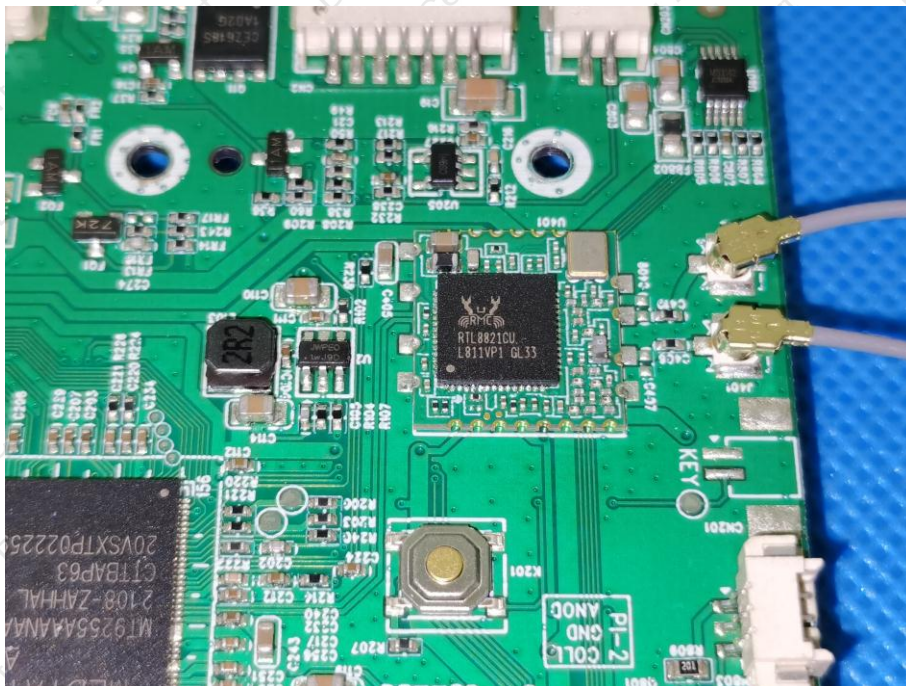
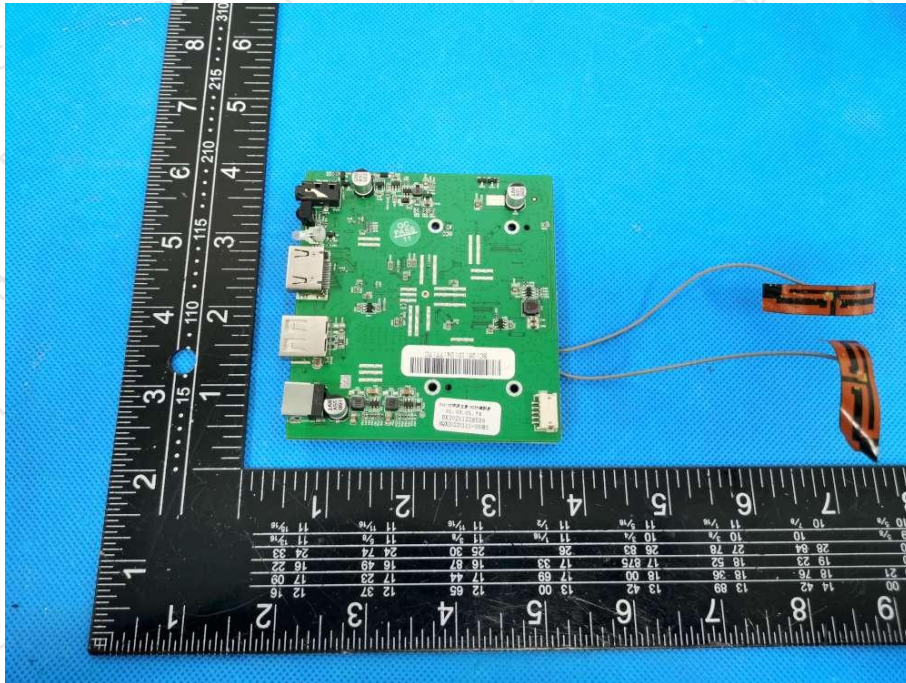












***** END OF REPORT *****