

5150-5250MHz

802.11a-5180



802.11a-5200



802.11a-5240



802.11ac(VHT20)-5180



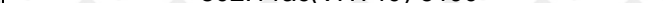
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802.11ac(VHT20)-5240

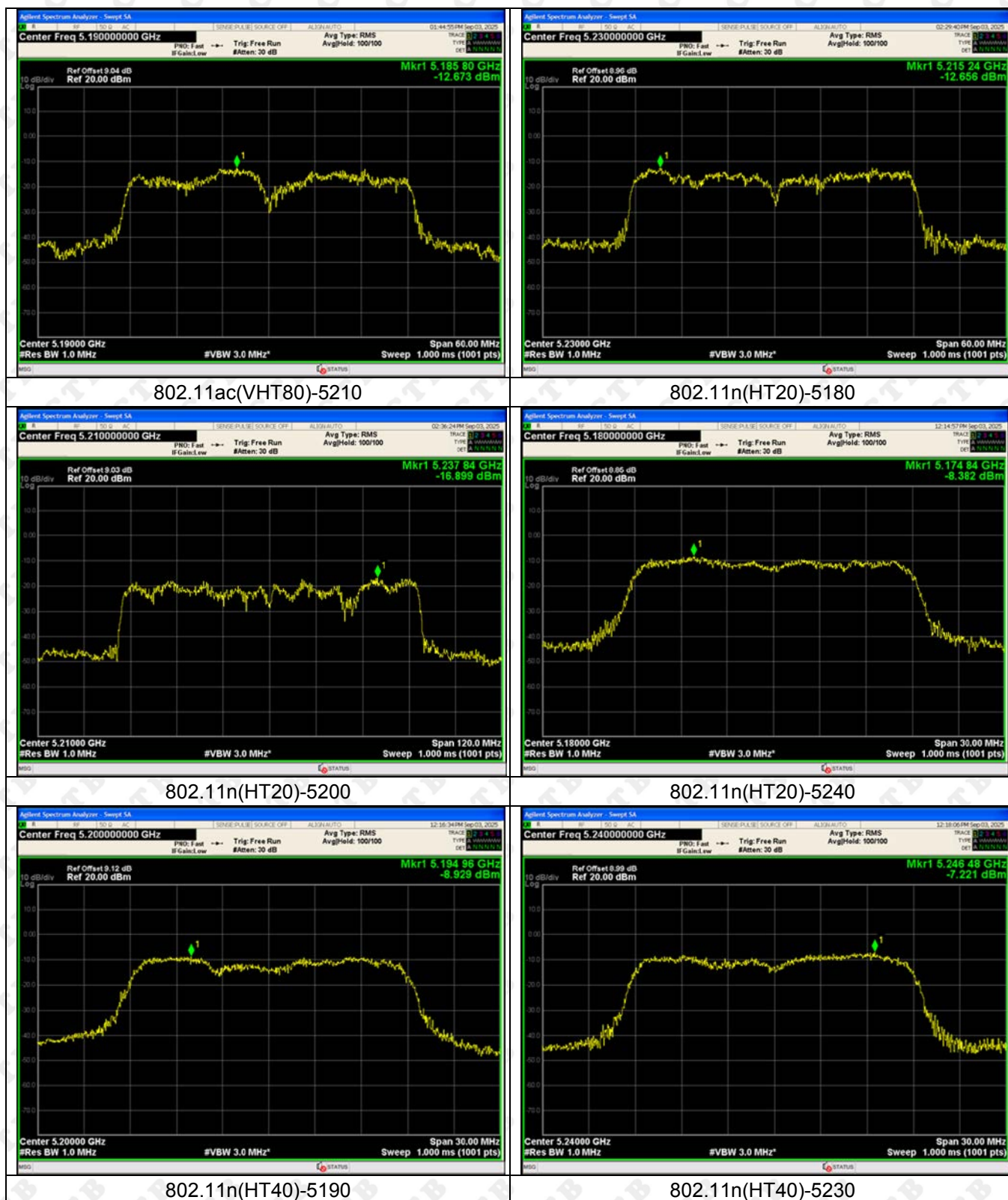


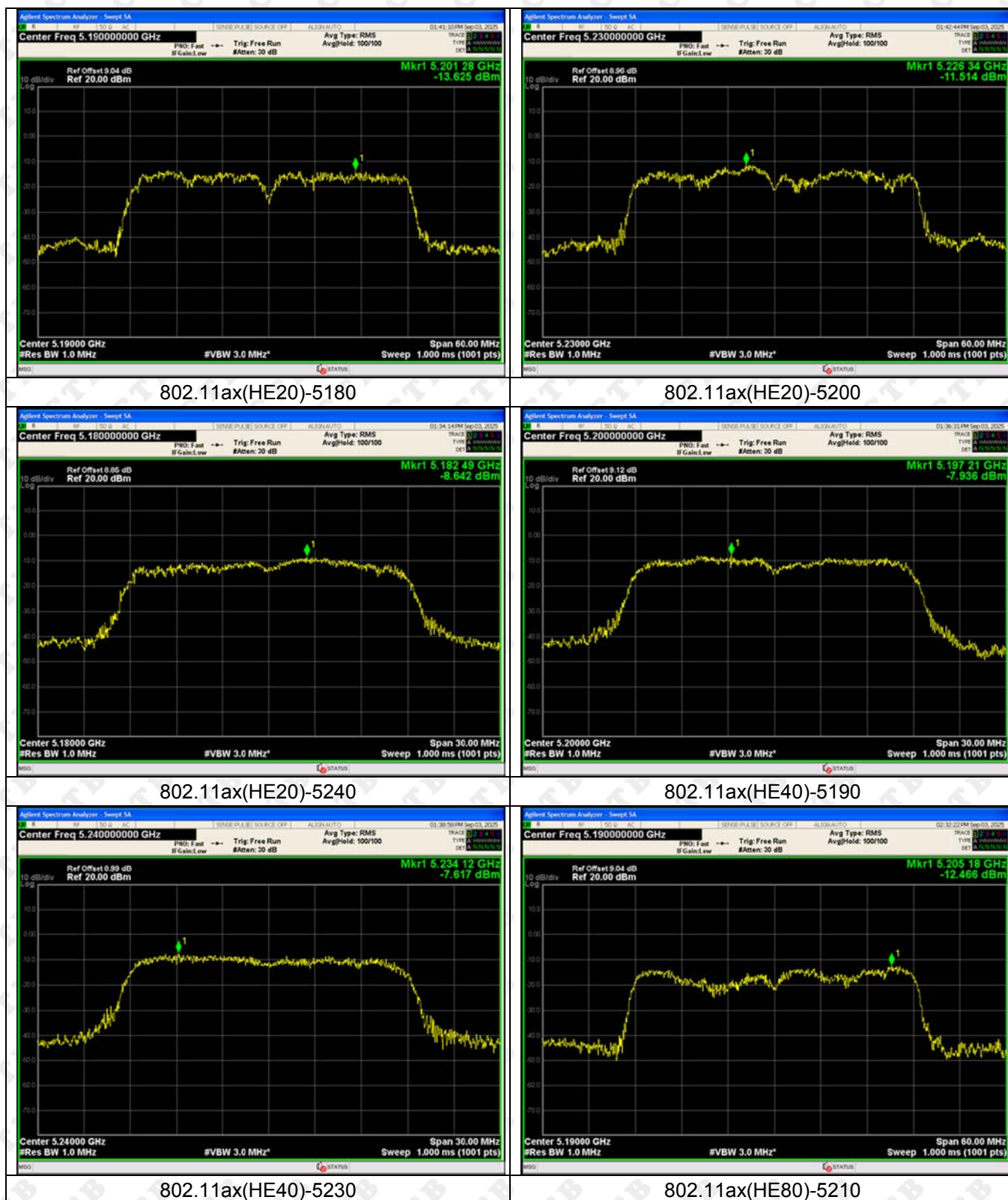
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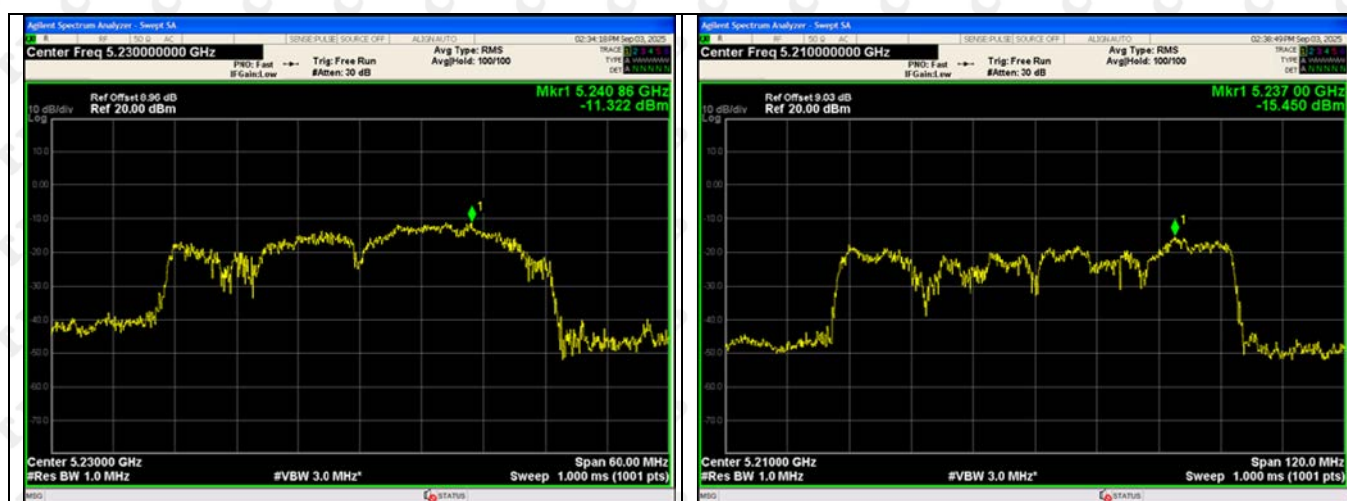


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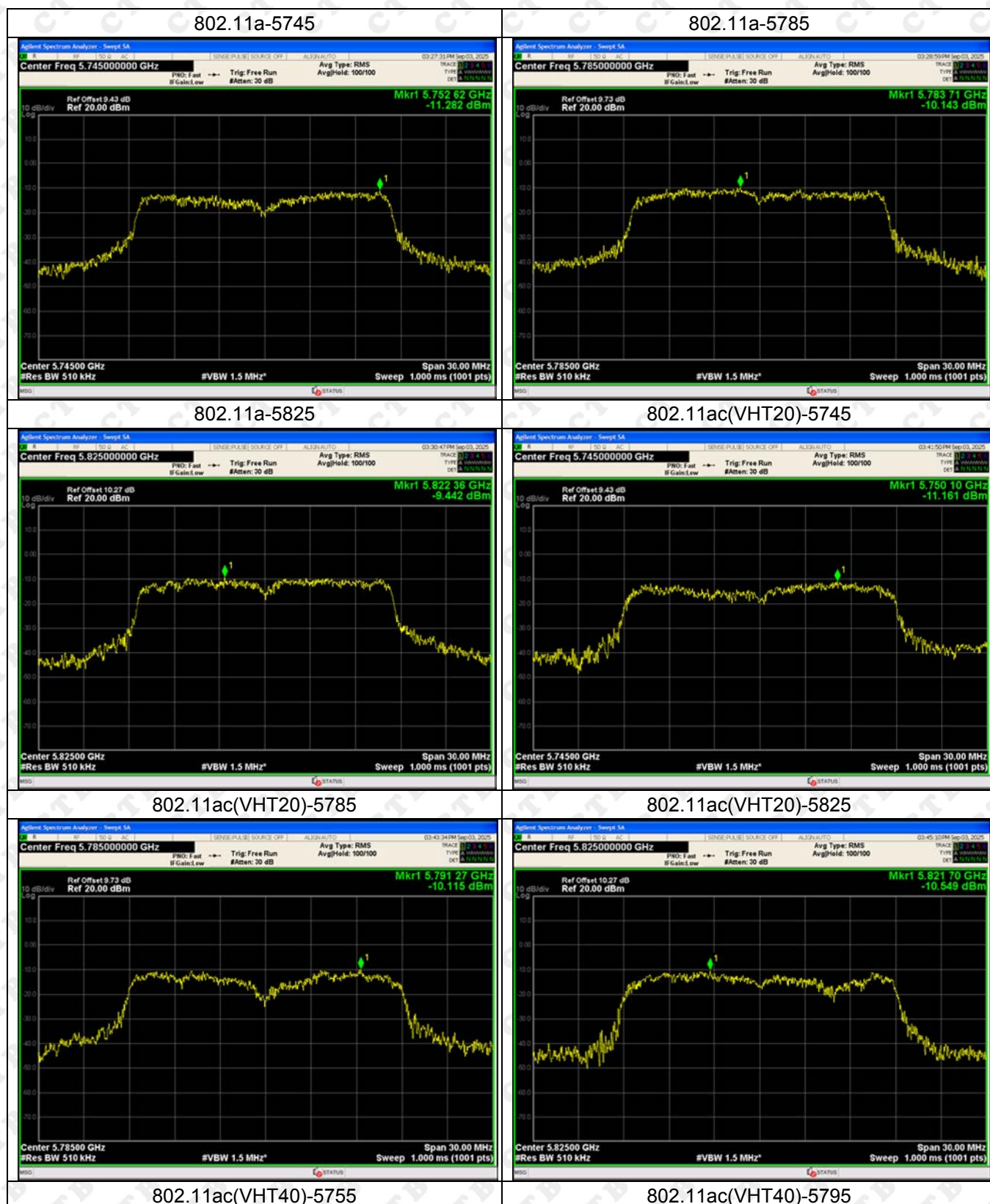








5725-5850MHz





802.11ac(VHT80)-5775



802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



5802.11n(HT40)-5755



802.11n(HT40)-5795



802.11ax(HE20)-5745



802.11ax(HE20)-5785



802.11ax(HE20)-5825



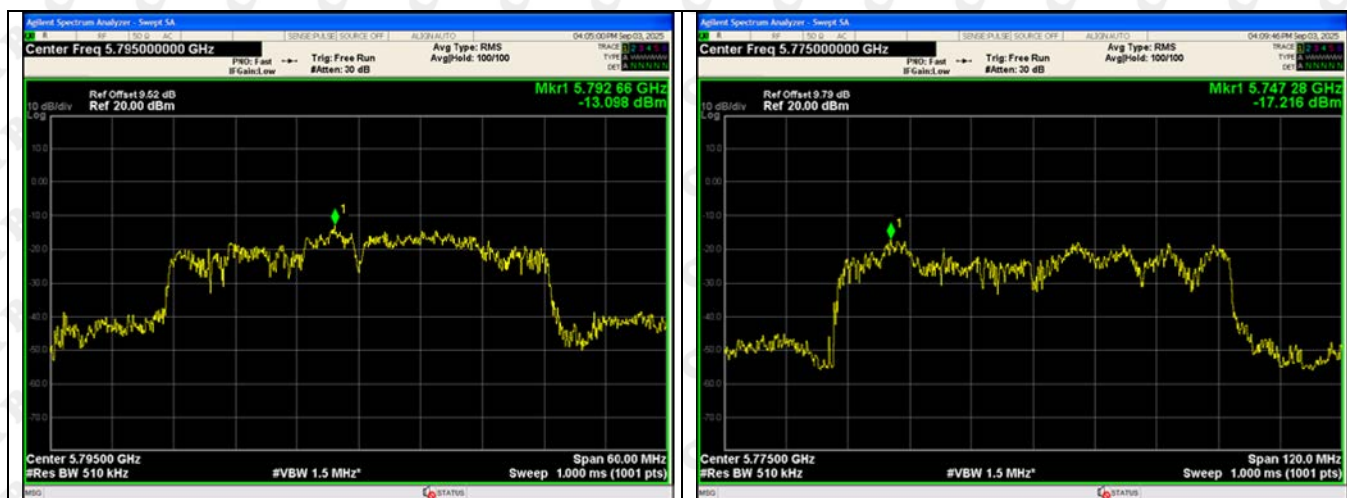
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802.11ax(HE40)-5795

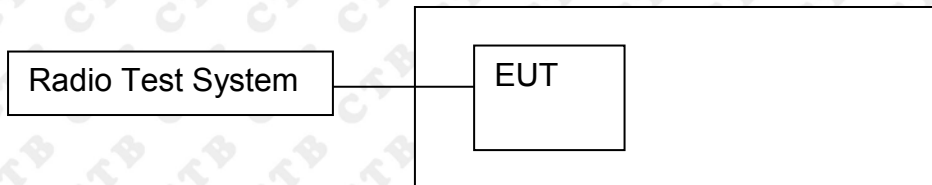


802.11ax(HE80)-5775



12. FREQUENCY STABILITY

12.1 Block Diagram Of Test Setup



12.2 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.

12.3 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.

12.4 Test Result

5150-5250MHz

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5180.0107	5180	0.0107	2.0727
		V max (V)	132	5180.0191	5180	0.0191	3.6796
		V min (V)	108	5180.0155	5180	0.0155	2.9836
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5180.0201	5180	0.0201	3.8734
		T (°C)	10	5180.0026	5180	0.0026	0.5029
		T (°C)	20	5180.0465	5180	0.0465	8.9757
		T (°C)	30	5180.0461	5180	0.0461	8.8977
		T (°C)	40	5180.0121	5180	0.0121	2.3266
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5200.0083	5200	0.0083	1.5938
		V max (V)	132	5200.0279	5200	0.0279	5.3558
		V min (V)	108	5200.0402	5200	0.0402	7.7338
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5200.0421	5200	0.0421	8.1037
		T (°C)	10	5200.0275	5200	0.0275	5.2890
		T (°C)	20	5200.0302	5200	0.0302	5.8108
		T (°C)	30	5200.0146	5200	0.0146	2.8128
		T (°C)	40	5200.0181	5200	0.0181	3.4792
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5240.0530	5240	0.0530	10.1197
		V max (V)	132	5240.0298	5240	0.0298	5.6924
		V min (V)	108	5240.0031	5240	0.0031	0.5876
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5240.0313	5240	0.0313	5.9712
		T (°C)	10	5240.0326	5240	0.0326	6.2281
		T (°C)	20	5240.0064	5240	0.0064	1.2247
		T (°C)	30	5240.0394	5240	0.0394	7.5257
		T (°C)	40	5240.0444	5240	0.0444	8.4687
Limits				±20ppm			
Result				Complies			

TX Frequency (5725-5850MHz)

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5745.0485	5745	0.0485	8.4390
		V max (V)	132	5745.0142	5745	0.0142	2.4701
		V min (V)	108	5745.0485	5745	0.0485	8.4390
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5745.0116	5745	0.0116	2.0265
		T (°C)	10	5745.0351	5745	0.0351	6.1047
		T (°C)	20	5745.0131	5745	0.0131	2.2794
		T (°C)	30	5745.0646	5745	0.0646	11.2427
		T (°C)	40	5745.0151	5745	0.0151	2.6325
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5785.0132	5785	0.0132	2.2872
		V max (V)	132	5785.0785	5785	0.0785	13.5618
		V min (V)	108	5785.0706	5785	0.0706	12.2075
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5785.0583	5785	0.0583	10.0827
		T (°C)	10	5785.0416	5785	0.0416	7.1834
		T (°C)	20	5785.0523	5785	0.0523	9.0373
		T (°C)	30	5785.0471	5785	0.0471	8.1475
		T (°C)	40	5785.0418	5785	0.0418	7.2333
Limits				±20ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120	5825.0294	5825	0.0294	5.0454
		V max (V)	132	5825.0162	5825	0.0162	2.7883
		V min (V)	108	5825.0197	5825	0.0197	3.3769
Limits				±20ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	0	5825.0670	5825	0.0670	11.5085
		T (°C)	10	5825.0858	5825	0.0858	14.7308
		T (°C)	20	5825.0585	5825	0.0585	10.0500
		T (°C)	30	5825.0679	5825	0.0679	11.6481
		T (°C)	40	5825.0306	5825	0.0306	5.2462
Limits				±20ppm			
Result				Complies			

13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT

13.1 Requirement

15.407(c) requirement:

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 signal ling 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.

13.2 Test Results

Operation in the absence of information to the transmit:

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of WLAN message transmitting from remote device and verify whether it shall reconnect. (manufacturer declare)

14. ANTENNA REQUIREMENT

15.203 requirement:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is Internal antenna and no consideration of replacement. The best case gain of the antenna WiFi (5.2G): 3.02dBi, WiFi (5.8G): 3.54dBi.

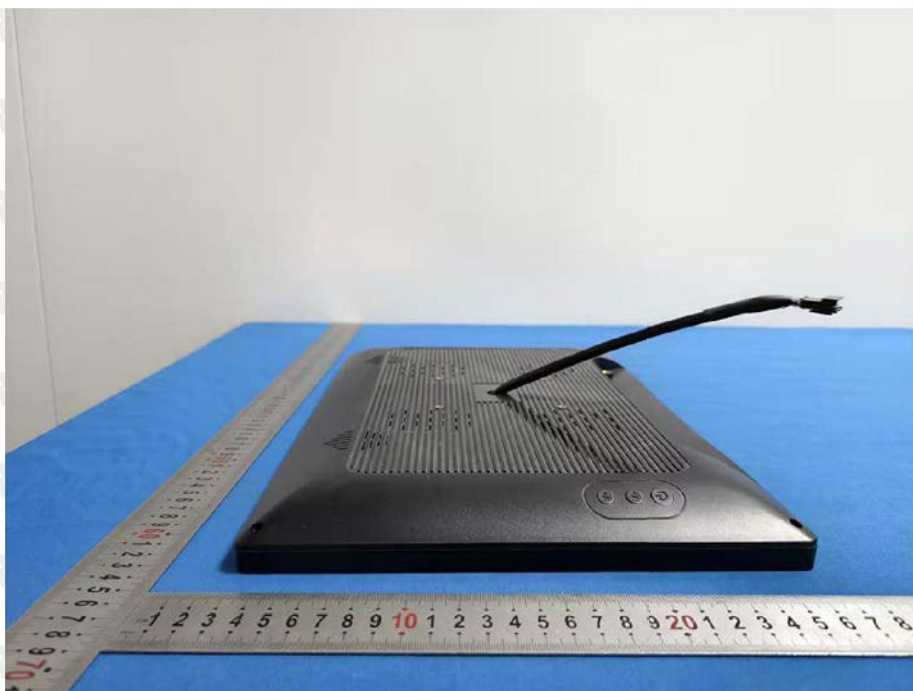
15. EUT PHOTOGRAPHS

External Photos EUT Photo 1



EUT Photo 2



EUT Photo 3**EUT Photo 4**

EUT Photo 5



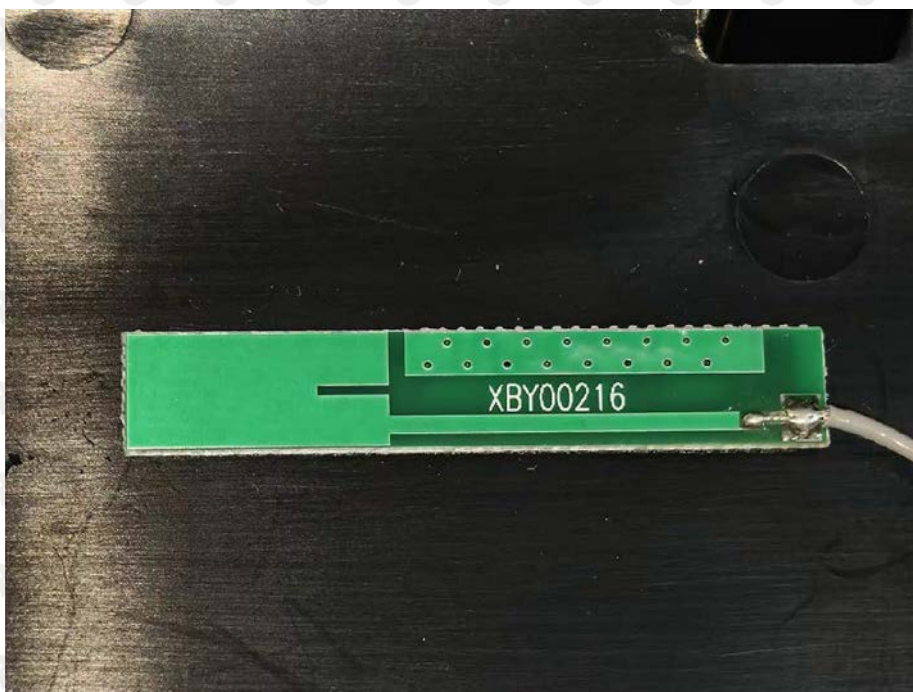
EUT Photo 6



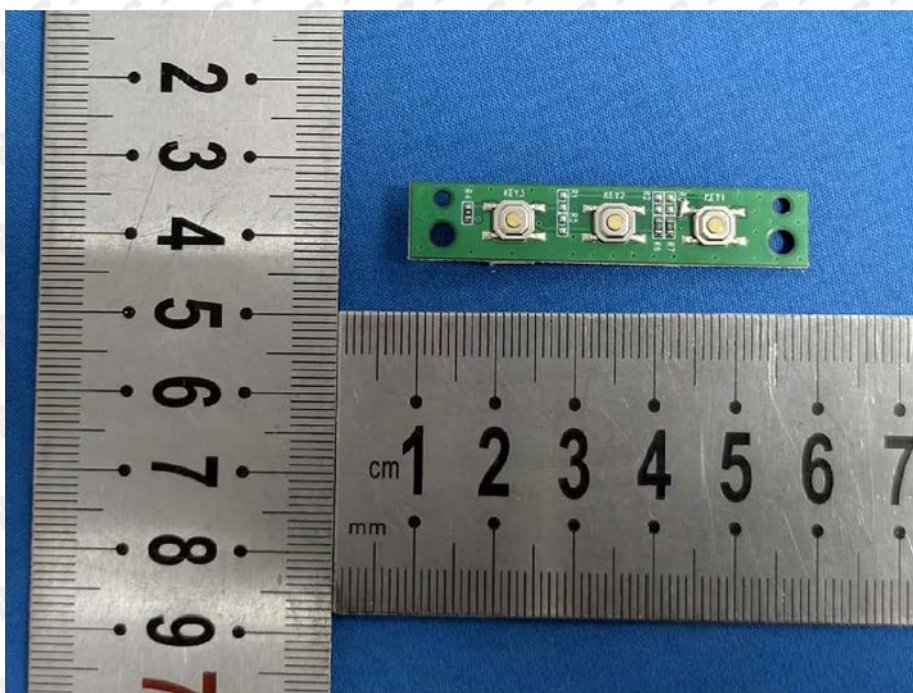
Internal Photos
EUT Photo 1



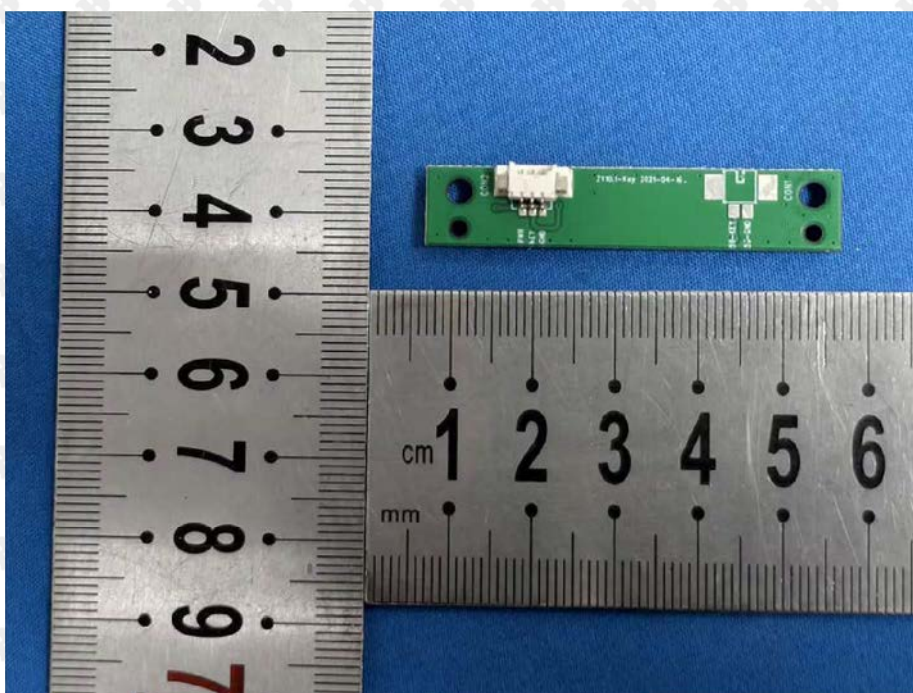
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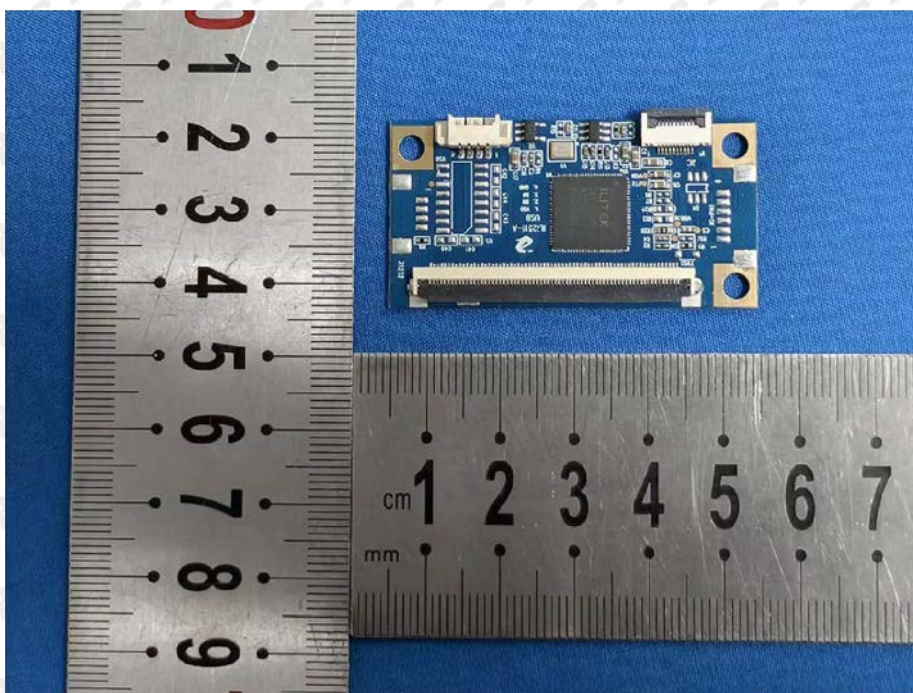
EUT Photo 3



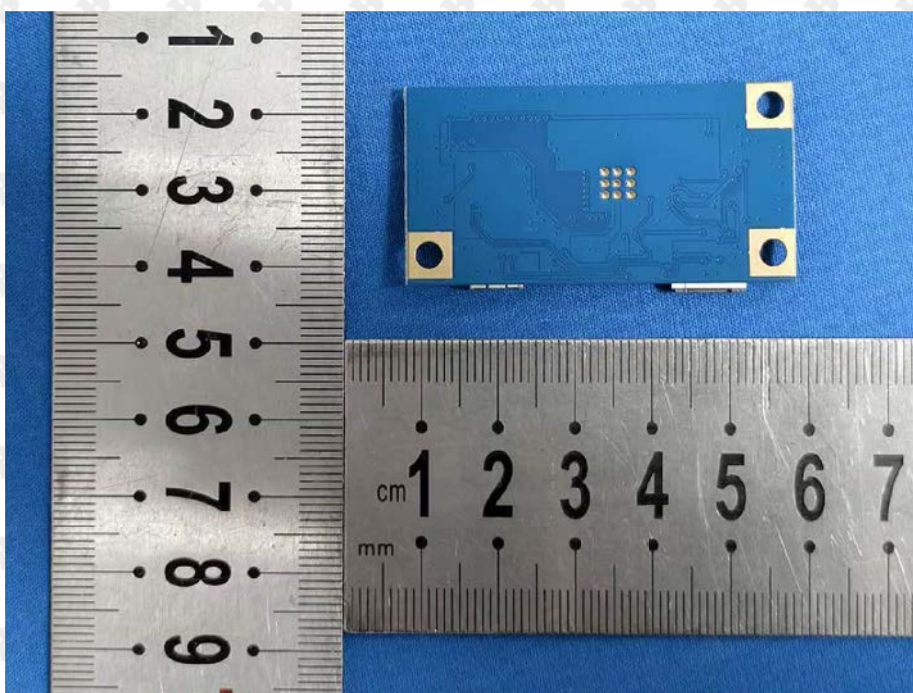
EUT Photo 4



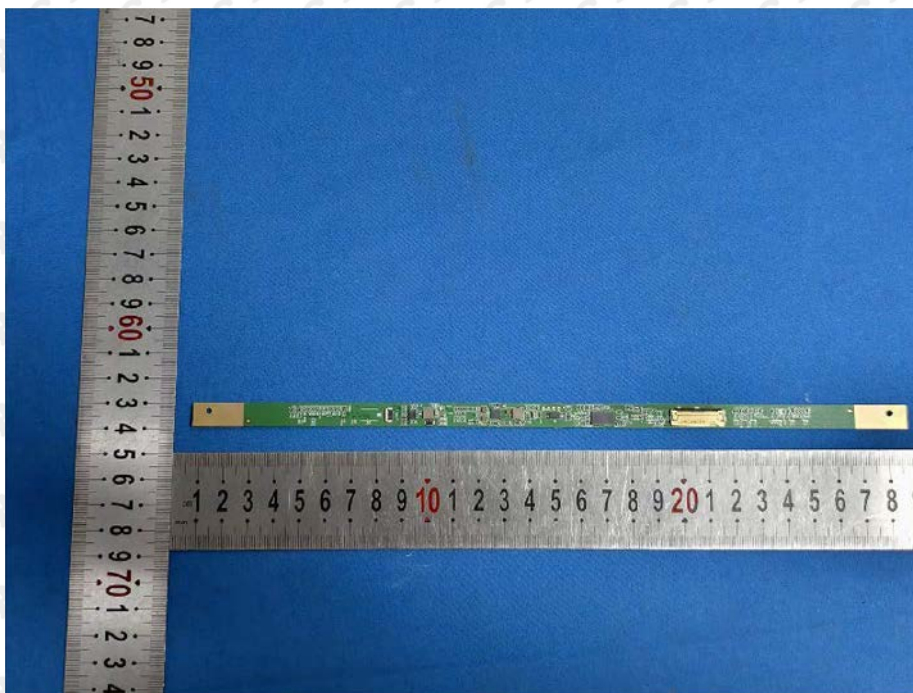
EUT Photo 5



EUT Photo 6



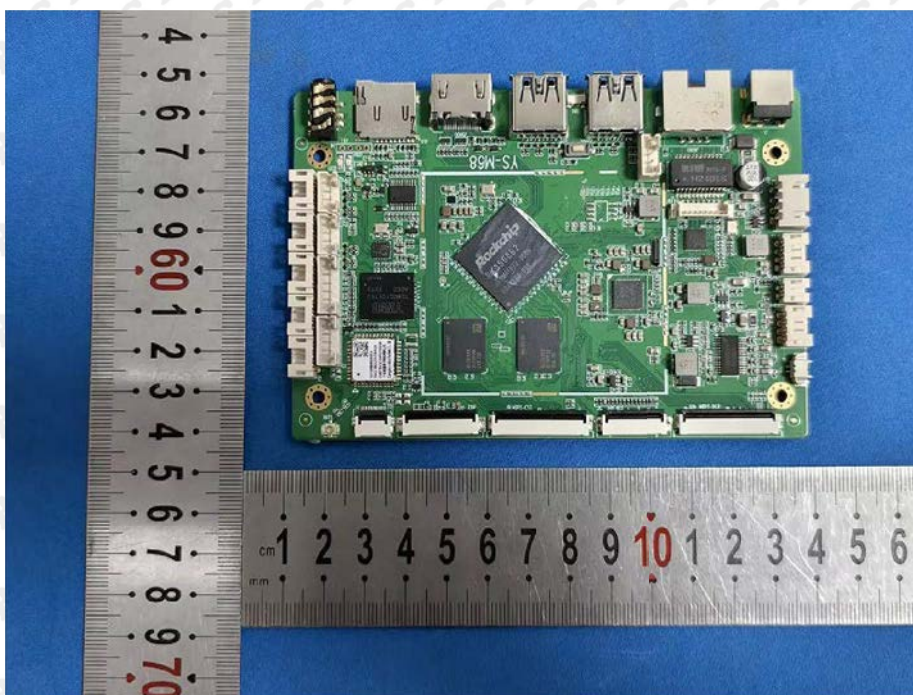
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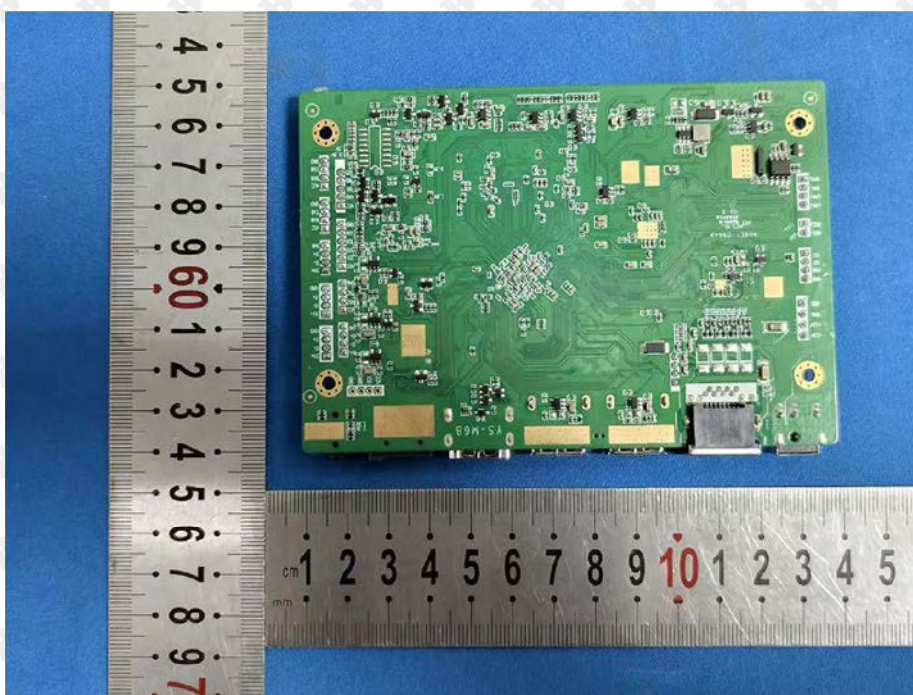
EUT Photo 8



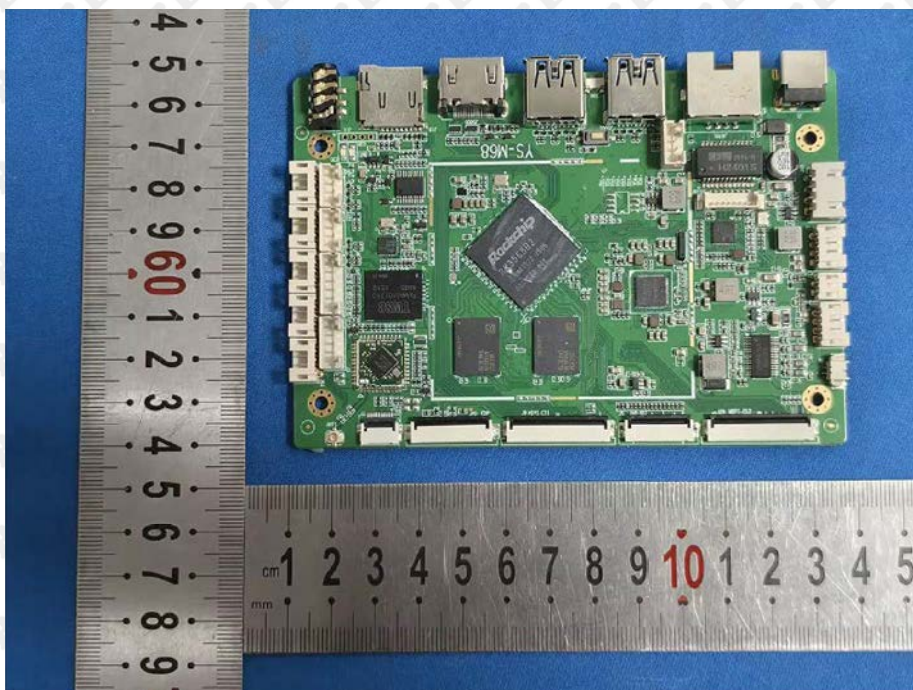
EUT Photo 9



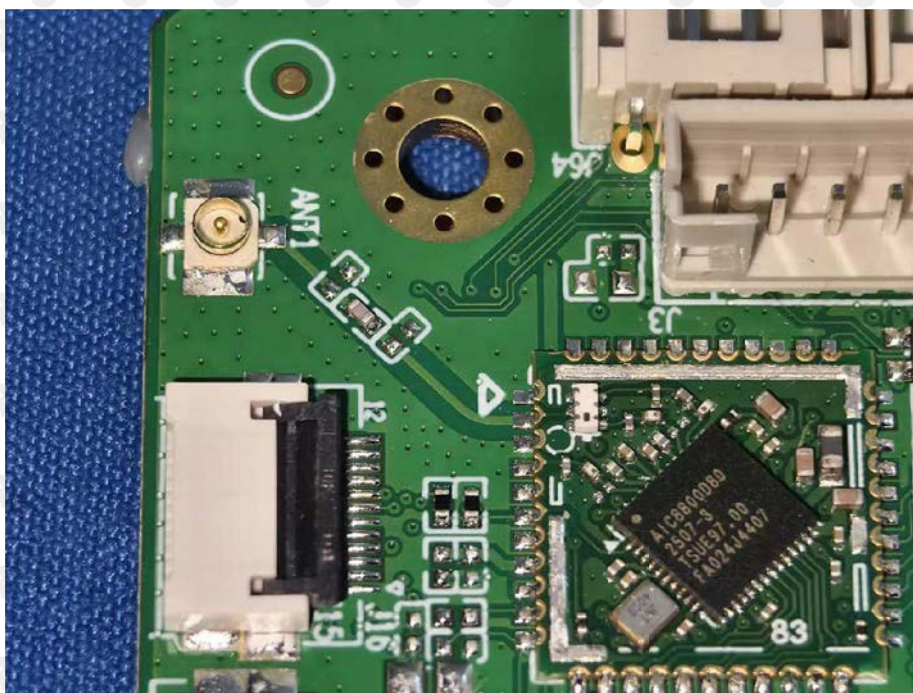
EUT Photo 10



EUT Photo 11



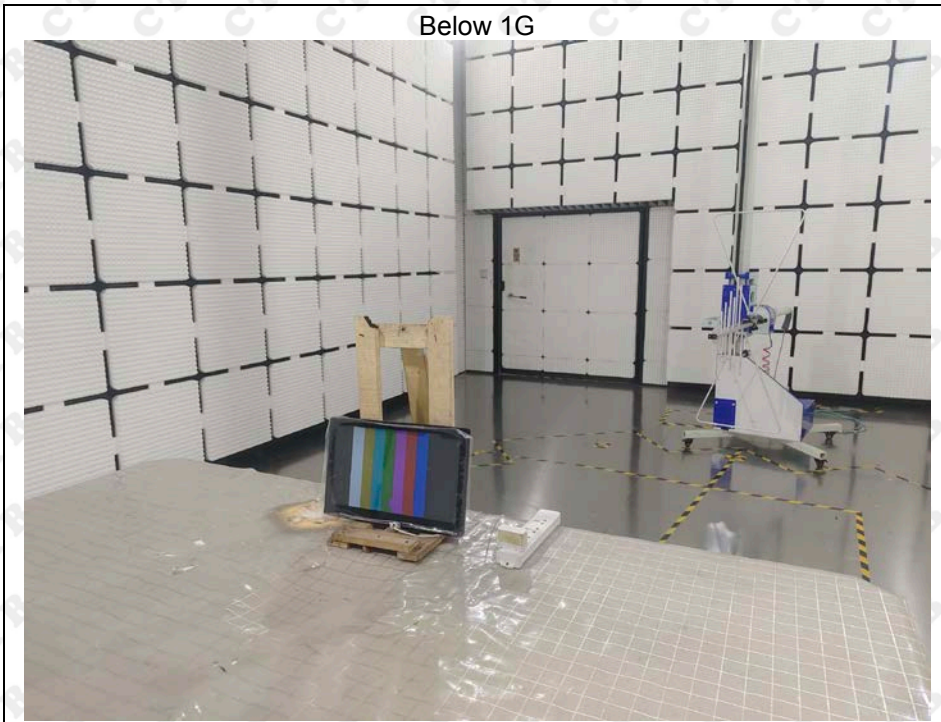
EUT Photo 12



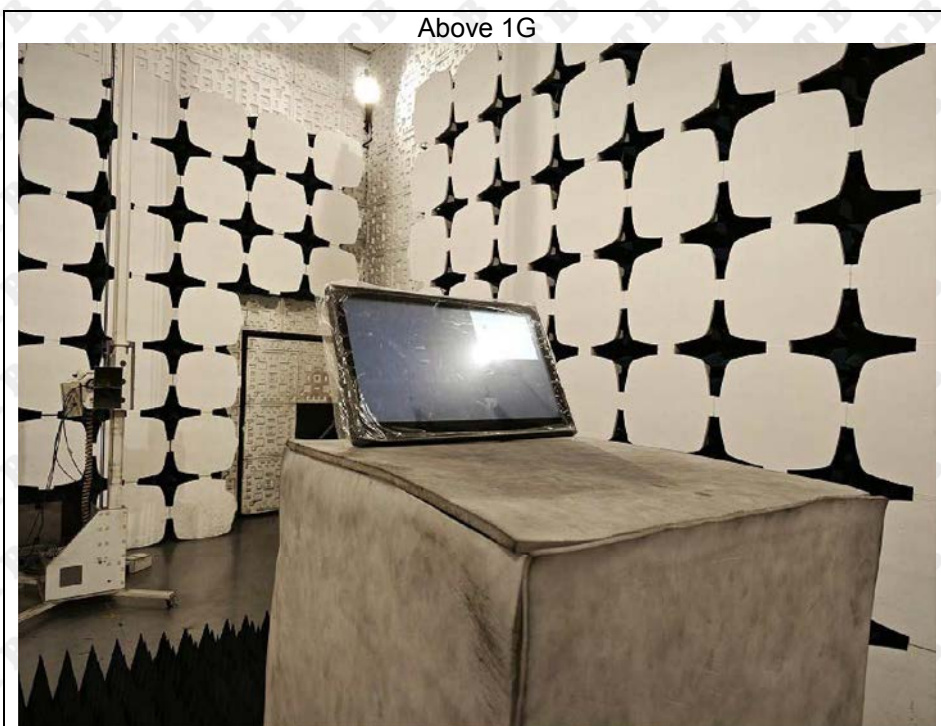
16. EUT TEST SETUP PHOTOGRAPHS

Radiated Emission

Below 1G



Above 1G



Conducted emissions



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