



802.11ac(VHT80)-5775



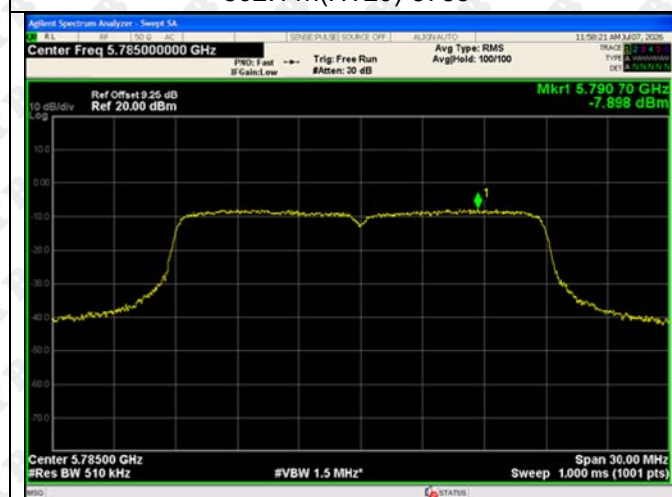
802.11n(HT20)-5745



802.11n(HT20)-5785



802.11n(HT20)-5825



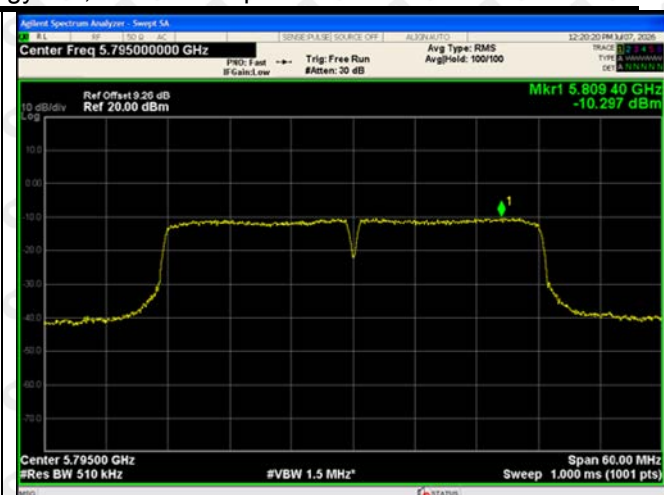
5802.11n(HT40)-5755



802.11n(HT40)-5795



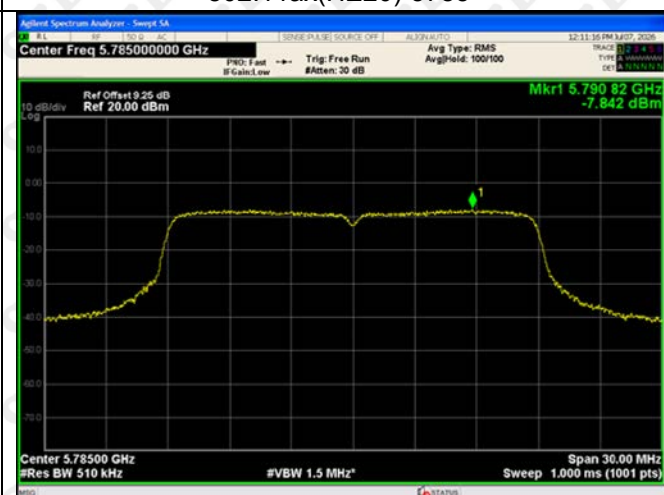
802.11ax(HE20)-5745



802.11ax(HE20)-5785



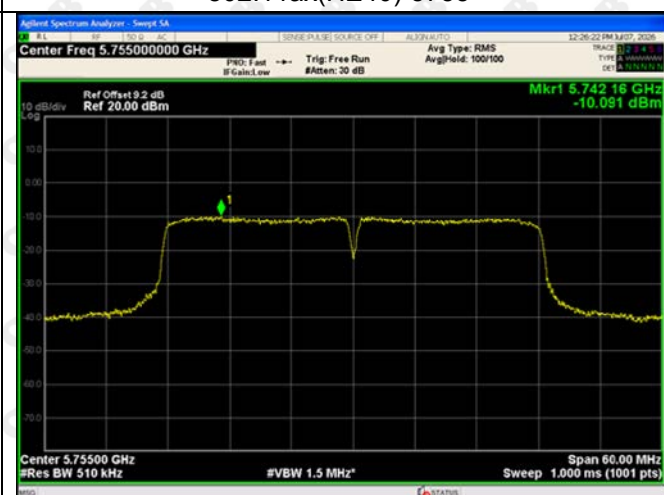
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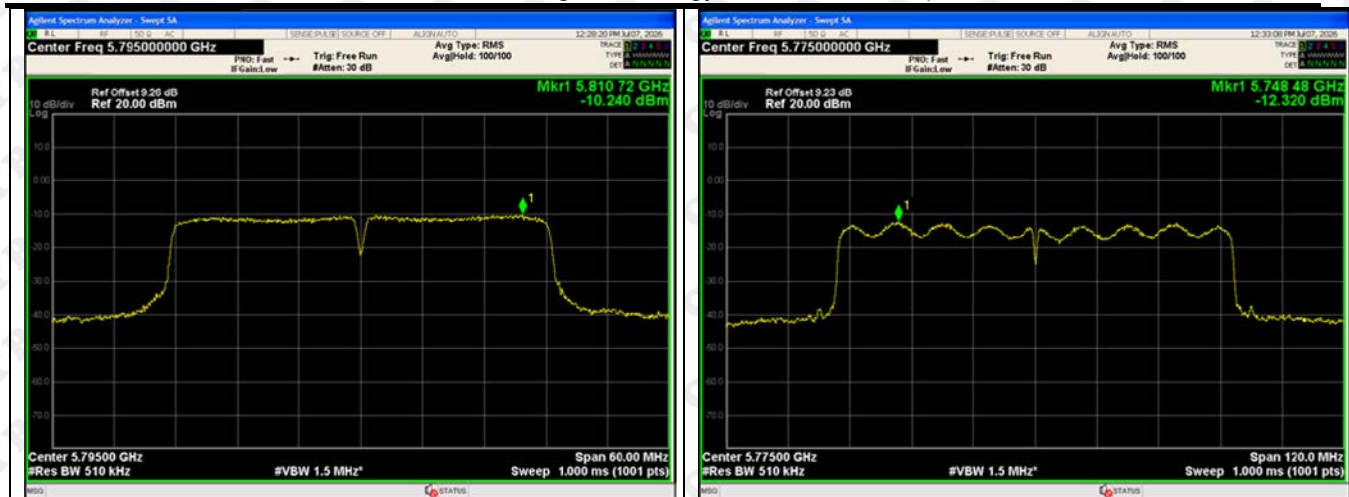
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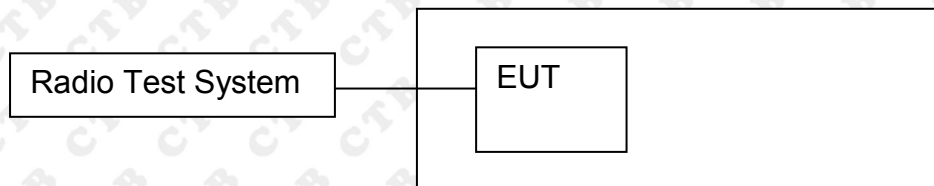


802.11ax(HE80)-5775



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	5180.0194	5180	0.0194	3.7422
		V max (V)	132	5180.0033	5180	0.0033	0.6381
		V min (V)	108	5180.0212	5180	0.0212	4.0835
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	5180.0248	5180	0.0248	4.7946
		T (°C)	10	5180.0162	5180	0.0162	3.1309
		T (°C)	20	5180.0530	5180	0.0530	10.2262
		T (°C)	30	5180.0081	5180	0.0081	1.5614
		T (°C)	40	5180.0214	5180	0.0214	4.1335
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	5200.0020	5200	0.0020	0.3810
		V max (V)	132	5200.0502	5200	0.0502	9.6450
		V min (V)	108	5200.0032	5200	0.0032	0.6157
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	5200.0308	5200	0.0308	5.9321
		T (°C)	10	5200.0097	5200	0.0097	1.8684
		T (°C)	20	5200.0203	5200	0.0203	3.9063
		T (°C)	30	5200.0224	5200	0.0224	4.3153
		T (°C)	40	5200.0263	5200	0.0263	5.0512
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	5240.0069	5240	0.0069	1.3144
		V max (V)	132	5240.0175	5240	0.0175	3.3314
		V min (V)	108	5240.0141	5240	0.0141	2.6879
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	5240.0177	5240	0.0177	3.3812
		T (°C)	10	5240.0141	5240	0.0141	2.6985
		T (°C)	20	5240.0241	5240	0.0241	4.6037
		T (°C)	30	5240.0520	5240	0.0520	9.9312
		T (°C)	40	5240.0378	5240	0.0378	7.2189
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	5745.0401	5745	0.0401	6.9873
		V max (V)	132	5745.0841	5745	0.0841	14.6433
		V min (V)	108	5745.0401	5745	0.0401	6.9873
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	5745.0460	5745	0.0460	8.0077
		T (°C)	10	5745.0578	5745	0.0578	10.0671
		T (°C)	20	5745.0462	5745	0.0462	8.0495
		T (°C)	30	5745.0216	5745	0.0216	3.7603
		T (°C)	40	5745.0387	5745	0.0387	6.7338
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	5785.0468	5785	0.0468	8.0847
		V max (V)	132	5785.0845	5785	0.0845	14.6083
		V min (V)	108	5785.0799	5785	0.0799	13.8109
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	5785.0602	5785	0.0602	10.4046
		T (°C)	10	5785.0589	5785	0.0589	10.1872
		T (°C)	20	5785.0856	5785	0.0856	14.8004
		T (°C)	30	5785.0095	5785	0.0095	1.6349
		T (°C)	40	5785.0293	5785	0.0293	5.0676
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	5825.0372	5825	0.0372	6.3797
		V max (V)	132	5825.0409	5825	0.0409	7.0146
		V min (V)	108	5825.0086	5825	0.0086	1.4770
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	5825.0828	5825	0.0828	14.2215
		T (°C)	10	5825.0652	5825	0.0652	11.1960
		T (°C)	20	5825.0829	5825	0.0829	14.2376
		T (°C)	30	5825.0896	5825	0.0896	15.3830
		T (°C)	40	5825.0423	5825	0.0423	7.2694
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 External antenna and no consideration of replacement. The best case gain of the antenna WiFi (5.2G): -2.07dBi, WiFi (5.8G): 1.12dBi

15. EUT TEST SETUP PHOTOGRAPHS

Radiated Emission

Below 1G



Above 1G



Conducted emissions



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