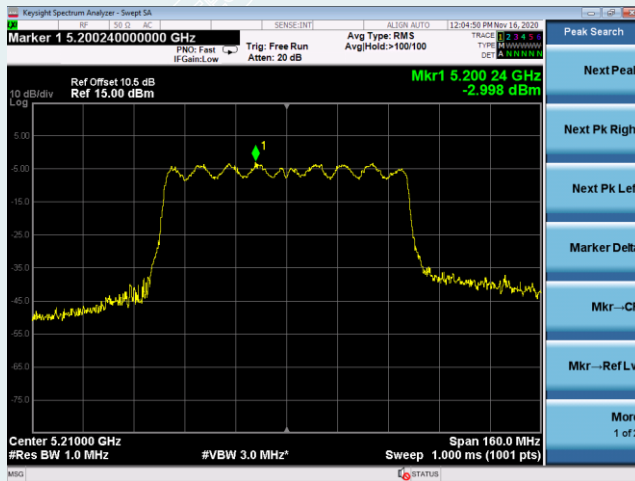
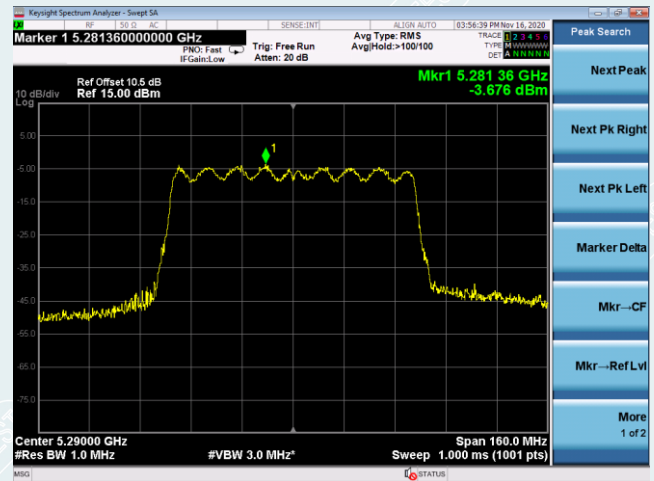


802.11ac VHT80 mode (antenna 2)

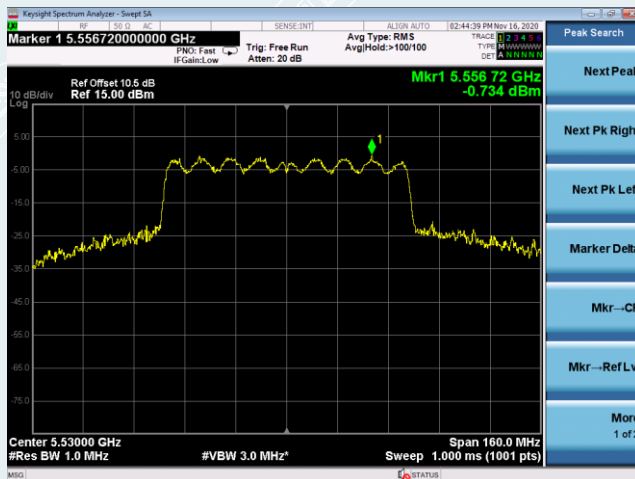
Channel 521MHz



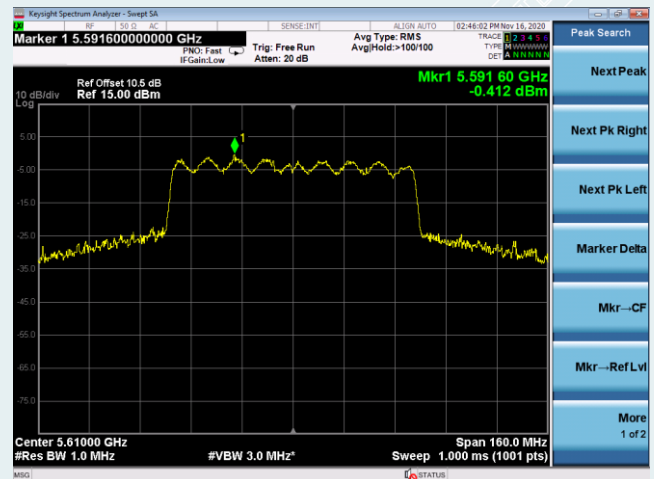
Channel 5290MHz



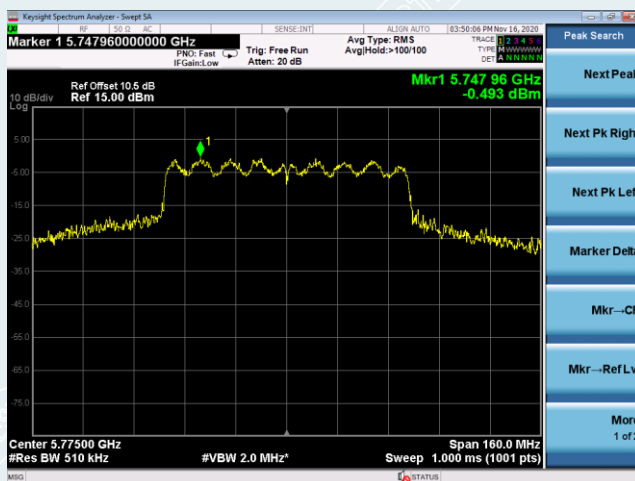
Channel 5530MHz



Channel 5610MHz



Channel 5775MHz



11. FREQUENCY STABILITY

11.1. LIMITS

According to §15.407(g), 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 users manual.

11.2. TEST PROCEDURES

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

11.3. TEST SETUP



11.4. TEST RESULTS

antenna 1

802.11a mode 5180-5240MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5179.960714	5150-5250	PASS
40	120	5179.982469	5150-5250	PASS
30	120	5179.967589	5150-5250	PASS
20	120	5179.985800	5150-5250	PASS
10	120	5179.999013	5150-5250	PASS
0	120	5179.984689	5150-5250	PASS
-10	120	5179.988310	5150-5250	PASS
-20	120	5179.963059	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5179.962055	5150-5250	PASS
20	120	5179.985200	5150-5250	PASS
	138	5179.982939	5150-5250	PASS

802.11a mode 5180-5240MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5239.950051	5150-5250	PASS
40	120	5239.969988	5150-5250	PASS
30	120	5239.987478	5150-5250	PASS
20	120	5239.980000	5150-5250	PASS
10	120	5239.974742	5150-5250	PASS
0	120	5239.978471	5150-5250	PASS
-10	120	5239.991535	5150-5250	PASS
-20	120	5239.955254	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5239.990620	5150-5250	PASS
20	120	5239.979800	5150-5250	PASS
	138	5239.970149	5150-5250	PASS

802.11a mode 5745-5805MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5744.976222	5725-5825	PASS
40	120	5744.955473	5725-5825	PASS
30	120	5744.955861	5725-5825	PASS
20	120	5744.977600	5725-5825	PASS
10	120	5744.965628	5725-5825	PASS
0	120	5744.981192	5725-5825	PASS
-10	120	5744.952019	5725-5825	PASS
-20	120	5744.984063	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5744.954403	5725-5825	PASS

20	120	5744.977400	5725-5825	PASS
	138	5744.989455	5725-5825	PASS

802.11a mode 5475-5825MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5824.960325	5725-5825	PASS
40	120	5824.956486	5725-5825	PASS
30	120	5824.967301	5725-5825	PASS
20	120	5824.976600	5725-5825	PASS
10	120	5824.960230	5725-5825	PASS
0	120	5824.961482	5725-5825	PASS
-10	120	5824.979495	5725-5825	PASS
-20	120	5824.998525	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5824.975254	5725-5825	PASS
20	120	5824.977400	5725-5825	PASS
	138	5824.996418	5725-5825	PASS

802.11n HT20 mode 5180-5240MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5179.958032	5150-5250	PASS
40	120	5179.957539	5150-5250	PASS
30	120	5179.981140	5150-5250	PASS
20	120	5179.986600	5150-5250	PASS
10	120	5179.972983	5150-5250	PASS
0	120	5179.991491	5150-5250	PASS
-10	120	5179.987969	5150-5250	PASS
-20	120	5179.994240	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5179.987132	5150-5250	PASS
20	120	5179.986200	5150-5250	PASS
	138	5179.999325	5150-5250	PASS

802.11n HT20 mode 5180-5240MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5239.979867	5150-5250	PASS
40	120	5239.974586	5150-5250	PASS
30	120	5239.980615	5150-5250	PASS
20	120	5239.979400	5150-5250	PASS
10	120	5239.988619	5150-5250	PASS
0	120	5239.953336	5150-5250	PASS
-10	120	5239.957970	5150-5250	PASS
-20	120	5239.965350	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5239.975910	5150-5250	PASS
20	120	5239.981200	5150-5250	PASS
	138	5239.967824	5150-5250	PASS

802.11n HT20 mode 5745-5805MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5744.973126	5725-5825	PASS
40	120	5744.956771	5725-5825	PASS
30	120	5744.988381	5725-5825	PASS
20	120	5744.977000	5725-5825	PASS
10	120	5744.965414	5725-5825	PASS
0	120	5744.959940	5725-5825	PASS
-10	120	5744.974558	5725-5825	PASS
-20	120	5744.982062	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5744.993167	5725-5825	PASS
20	120	5744.978400	5725-5825	PASS
	138	5744.968597	5725-5825	PASS

802.11n HT20 mode 5475-5805MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5824.950684	5725-5825	PASS
40	120	5824.949733	5725-5825	PASS
30	120	5824.987618	5725-5825	PASS
20	120	5824.978000	5725-5825	PASS
10	120	5824.972237	5725-5825	PASS
0	120	5824.997637	5725-5825	PASS
-10	120	5824.970616	5725-5825	PASS
-20	120	5824.964999	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5824.990512	5725-5825	PASS
20	120	5824.977200	5725-5825	PASS
	138	5824.999202	5725-5825	PASS

802.11n HT40 mode 5190-5230MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5189.961090	5150-5250	PASS
40	120	5189.990371	5150-5250	PASS
30	120	5189.979057	5150-5250	PASS
20	120	5189.979800	5150-5250	PASS
10	120	5189.983722	5150-5250	PASS
0	120	5189.956517	5150-5250	PASS
-10	120	5189.995514	5150-5250	PASS
-20	120	5189.960373	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5189.970257	5150-5250	PASS
20	120	5189.981600	5150-5250	PASS
	138	5189.988944	5150-5250	PASS

802.11n HT40 mode 5190-5230MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5229.960355	5150-5250	PASS
40	120	5229.950855	5150-5250	PASS
30	120	5229.979631	5150-5250	PASS
20	120	5229.979200	5150-5250	PASS
10	120	5229.998331	5150-5250	PASS
0	120	5229.988226	5150-5250	PASS
-10	120	5229.995596	5150-5250	PASS
-20	120	5229.955431	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5229.967285	5150-5250	PASS
20	120	5229.979400	5150-5250	PASS
	138	5229.970475	5150-5250	PASS

802.11n HT40 mode 5755-5795MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5754.992511	5725-5825	PASS
40	120	5754.987441	5725-5825	PASS
30	120	5754.966491	5725-5825	PASS
20	120	5754.977800	5725-5825	PASS
10	120	5754.981572	5725-5825	PASS
0	120	5754.952158	5725-5825	PASS
-10	120	5754.999948	5725-5825	PASS
-20	120	5754.984748	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5754.968713	5725-5825	PASS
20	120	5754.977600	5725-5825	PASS
	138	5754.998918	5725-5825	PASS

802.11n HT40 mode 5755-5795MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5794.987666	5725-5825	PASS
40	120	5794.951725	5725-5825	PASS
30	120	5794.966439	5725-5825	PASS
20	120	5794.977200	5725-5825	PASS
10	120	5794.993580	5725-5825	PASS
0	120	5794.999413	5725-5825	PASS
-10	120	5794.971032	5725-5825	PASS
-20	120	5794.959901	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5794.955269	5725-5825	PASS
20	120	5794.977400	5725-5825	PASS
	138	5794.968027	5725-5825	PASS

802.11AC HT80 mode 5210MHz

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5209.983027	5150-5250	PASS
40	120	5209.950541	5150-5250	PASS
30	120	5209.950580	5150-5250	PASS
20	120	5209.980000	5150-5250	PASS
10	120	5209.953976	5150-5250	PASS
0	120	5209.987341	5150-5250	PASS
-10	120	5209.972633	5150-5250	PASS
-20	120	5209.986580	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5209.970130	5150-5250	PASS
20	120	5209.979800	5150-5250	PASS
	138	5209.992557	5150-5250	PASS

802.11AC HT80 mode 5775MHz

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5774.996815	5725-5825	PASS
40	120	5774.961848	5725-5825	PASS

30	120	5774.957524	5725-5825	PASS
20	120	5774.977000	5725-5825	PASS
10	120	5774.955544	5725-5825	PASS
0	120	5774.950531	5725-5825	PASS
-10	120	5774.960453	5725-5825	PASS
-20	120	5774.991320	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5774.961627	5725-5825	PASS
20	120	5774.977400	5725-5825	PASS
	138	5774.966659	5725-5825	PASS

antenna 2

802.11a mode 5180-5240MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5179.950130	5150-5250	PASS
40	120	5179.971305	5150-5250	PASS
30	120	5179.963927	5150-5250	PASS
20	120	5179.980000	5150-5250	PASS
10	120	5179.953131	5150-5250	PASS
0	120	5179.971714	5150-5250	PASS
-10	120	5179.954191	5150-5250	PASS
-20	120	5179.956988	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5179.956132	5150-5250	PASS
20	120	5179.979400	5150-5250	PASS
	138	5179.988515	5150-5250	PASS

802.11a mode 5180-5240MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5239.995691	5150-5250	PASS
40	120	5239.975170	5150-5250	PASS
30	120	5239.993050	5150-5250	PASS
20	120	5239.979200	5150-5250	PASS
10	120	5239.996358	5150-5250	PASS
0	120	5239.990984	5150-5250	PASS
-10	120	5239.976224	5150-5250	PASS
-20	120	5239.961882	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5239.954278	5150-5250	PASS
20	120	5239.980000	5150-5250	PASS
	138	5239.968895	5150-5250	PASS

802.11a mode 5745-5805MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5744.959300	5725-5825	PASS
40	120	5744.999072	5725-5825	PASS
30	120	5744.967333	5725-5825	PASS
20	120	5744.977000	5725-5825	PASS
10	120	5744.957163	5725-5825	PASS
0	120	5744.958065	5725-5825	PASS
-10	120	5744.987763	5725-5825	PASS
-20	120	5744.997212	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5744.969639	5725-5825	PASS
20	120	5744.978000	5725-5825	PASS

	138	5744.970555	5725-5825	PASS
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802.11a mode 5475-5825MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5824.997555	5725-5825	PASS
40	120	5824.985653	5725-5825	PASS
30	120	5824.976812	5725-5825	PASS
20	120	5724.977800	5725-5825	PASS
10	120	5824.962981	5725-5825	PASS
0	120	5824.977833	5725-5825	PASS
-10	120	5824.950194	5725-5825	PASS
-20	120	5824.975854	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5824.980594	5725-5825	PASS
20	120	5724.976800	5725-5825	PASS
	138	5824.995576	5725-5825	PASS

802.11n HT20 mode 5180-5240MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5179.963468	5150-5250	PASS
40	120	5179.961726	5150-5250	PASS
30	120	5179.984300	5150-5250	PASS
20	120	5179.987800	5150-5250	PASS
10	120	5179.953261	5150-5250	PASS
0	120	5179.992495	5150-5250	PASS
-10	120	5179.971756	5150-5250	PASS
-20	120	5179.955341	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5179.957641	5150-5250	PASS
20	120	5179.980200	5150-5250	PASS
	138	5179.996583	5150-5250	PASS

802.11n HT20 mode 5180-5240MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5239.972126	5150-5250	PASS
40	120	5239.998935	5150-5250	PASS
30	120	5239.968246	5150-5250	PASS
20	120	5239.980400	5150-5250	PASS
10	120	5239.972930	5150-5250	PASS
0	120	5239.984542	5150-5250	PASS
-10	120	5239.963697	5150-5250	PASS
-20	120	5239.965937	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5239.984877	5150-5250	PASS
20	120	5239.980200	5150-5250	PASS
	138	5239.996002	5150-5250	PASS

802.11n HT20 mode 5745-5805MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5744.980761	5725-5825	PASS
40	120	5744.998740	5725-5825	PASS
30	120	5744.967466	5725-5825	PASS
20	120	5744.976800	5725-5825	PASS
10	120	5744.964884	5725-5825	PASS
0	120	5744.958992	5725-5825	PASS
-10	120	5744.992734	5725-5825	PASS
-20	120	5744.992072	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5744.956494	5725-5825	PASS
20	120	5744.978200	5725-5825	PASS
	138	5744.970255	5725-5825	PASS

802.11n HT20 mode 5475-5805MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5824.963597	5725-5825	PASS
40	120	5824.964487	5725-5825	PASS
30	120	5824.987982	5725-5825	PASS
20	120	5824.978000	5725-5825	PASS
10	120	5824.986844	5725-5825	PASS
0	120	5824.954337	5725-5825	PASS
-10	120	5824.953740	5725-5825	PASS
-20	120	5824.982868	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5824.982914	5725-5825	PASS
20	120	5824.977400	5725-5825	PASS
	138	5824.990805	5725-5825	PASS

802.11n HT40 mode 5190-5230MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5189.968750	5150-5250	PASS
40	120	5189.993343	5150-5250	PASS
30	120	5189.994207	5150-5250	PASS
20	120	5189.979400	5150-5250	PASS
10	120	5189.985319	5150-5250	PASS
0	120	5189.966514	5150-5250	PASS
-10	120	5189.960249	5150-5250	PASS
-20	120	5189.980887	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5189.950741	5150-5250	PASS
20	120	5189.980200	5150-5250	PASS
	138	5189.993860	5150-5250	PASS

802.11n HT40 mode 5190-5230MHz (High)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5229.967856	5150-5250	PASS
40	120	5229.995026	5150-5250	PASS
30	120	5229.997104	5150-5250	PASS
20	120	5229.980000	5150-5250	PASS
10	120	5229.950221	5150-5250	PASS
0	120	5229.979833	5150-5250	PASS
-10	120	5229.979362	5150-5250	PASS
-20	120	5229.968711	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5229.989192	5150-5250	PASS
20	120	5229.979400	5150-5250	PASS
	138	5229.967122	5150-5250	PASS

802.11n HT40 mode 5755-5795MHz (Low)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5754.966757	5725-5825	PASS
40	120	5754.966001	5725-5825	PASS
30	120	5754.998127	5725-5825	PASS
20	120	5754.977000	5725-5825	PASS
10	120	5754.963393	5725-5825	PASS
0	120	5754.967959	5725-5825	PASS

-10	120	5754.970925	5725-5825	PASS
-20	120	5754.954767	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5754.972500	5725-5825	PASS
20	120	5754.977200	5725-5825	PASS
	138	5754.994696	5725-5825	PASS

802.11n HT40 mode 5755-5795MHz (high)

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5794.969921	5725-5825	PASS
40	120	5794.986370	5725-5825	PASS
30	120	5794.983991	5725-5825	PASS
20	120	5794.976600	5725-5825	PASS
10	120	5794.949768	5725-5825	PASS
0	120	5794.986445	5725-5825	PASS
-10	120	5794.954409	5725-5825	PASS
-20	120	5794.987606	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5794.984993	5725-5825	PASS
20	120	5794.977000	5725-5825	PASS
	138	5794.985910	5725-5825	PASS

802.11AC HT80 mode 5210MHz

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5209.982675	5150-5250	PASS
40	120	5209.978331	5150-5250	PASS
30	120	5209.995913	5150-5250	PASS
20	120	5209.979800	5150-5250	PASS
10	120	5209.959599	5150-5250	PASS
0	120	5209.960521	5150-5250	PASS
-10	120	5209.987987	5150-5250	PASS
-20	120	5209.962108	5150-5250	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5209.950953	5150-5250	PASS
20	120	5209.979000	5150-5250	PASS
	138	5209.957396	5150-5250	PASS

802.11AC HT80 modee 5775MHz

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
50	120	5774.981275	5725-5825	PASS
40	120	5774.963770	5725-5825	PASS
30	120	5774.984634	5725-5825	PASS
20	120	5774.977400	5725-5825	PASS
10	120	5774.964002	5725-5825	PASS
0	120	5774.986887	5725-5825	PASS
-10	120	5774.955404	5725-5825	PASS
-20	120	5774.993569	5725-5825	PASS

Environment Temperature (°C)	Volage (V)	Measured Frequency (MHz)	limit Range	Test Result
	102	5774.951992	5725-5825	PASS
20	120	5774.977200	5725-5825	PASS
	138	5774.956098	5725-5825	PASS

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