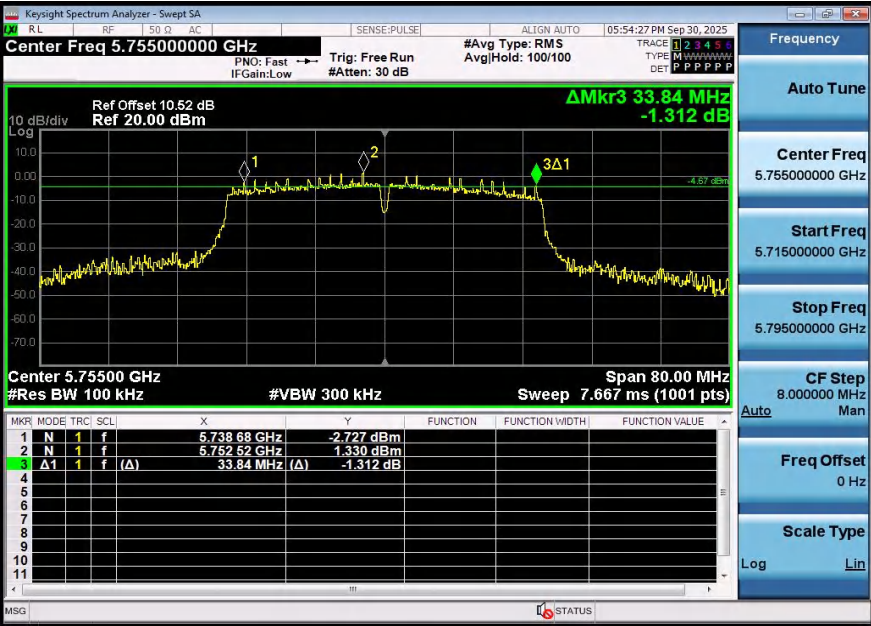
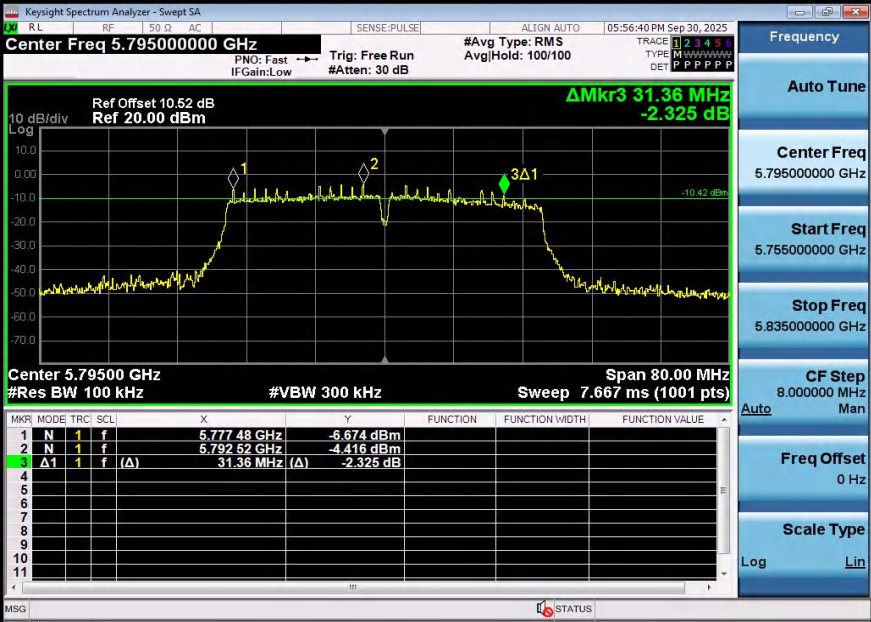
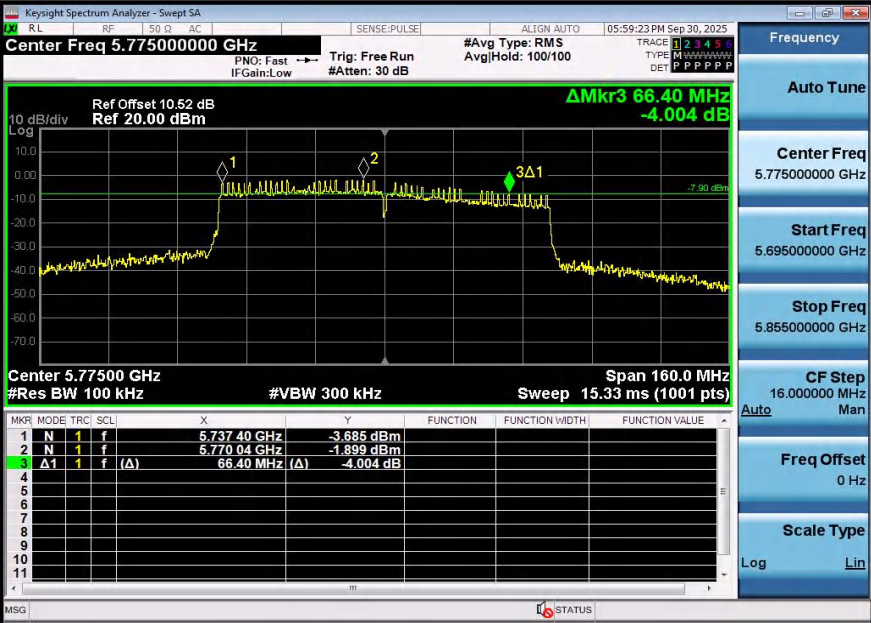




11AC40SISO-Ant1-5755



11AC40SISO-Ant1-5795



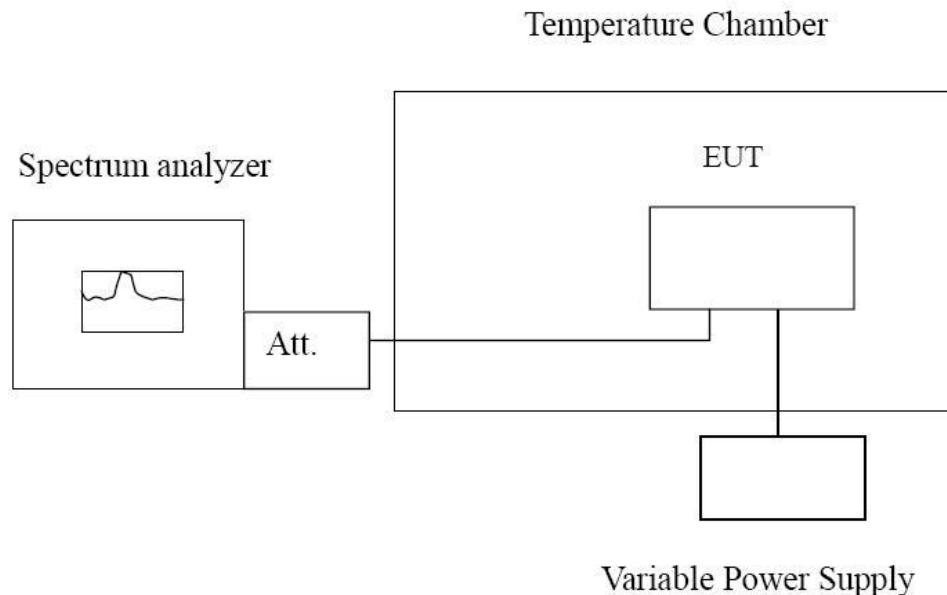
11AC80SISO-Ant1-5775

4.8 Frequency Stability

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 users manual.

TEST CONFIGURATION



TEST PROCEDURE

Frequency Stability under Temperature Variations:

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 -30°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.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

TEST RESULTS

Record worst case as below:

Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
12.0	-30	132.87	0.02565	Within the band of operation	Pass
	-20	127.93	0.02470		
	-10	164.23	0.03170		
	0	152.84	0.02951		
	10	163.24	0.03151		
	20	126.10	0.02434		
	30	168.75	0.03258		
	40	126.12	0.02435		
	50	129.94	0.02508		
13.2	25	158.68	0.03063	Within the band of operation	Pass
10.8	25	124.26	0.02399		

4.9 Automatically Discontinue Transmission

Standard Applicable

FCC CFR Title 47 Part 15 Subpart C Section 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 signalling 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.

Test Result:

Declared by applicants that the device will automatically discontinue transmission in case of either absence of information to transmit or operational failure.

4.10 Band edge for RF Conducted Emissions

Limit

1) For transmitters operating in the 5.15 – 5.25 GHz band: All emissions outside of the 5.15 – 5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.

2) For transmitters operating solely in the 5.725 – 5.850 GHz band.

All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=1MHz, VBW= 1MHz, peak detector , and max hold.

Test Configuration



Test Results

TestMode	Antenna	ChName	Frequency[MHz]	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5720~5725	-33.54	≤15.82	PASS
11A	Ant1	Low	5745	5700~5720	-32.73	≤10.38	PASS
11A	Ant1	Low	5745	5650~5700	-33.23	≤-26.36	PASS
11A	Ant1	Low	5745	5760~5650	-32.04	≤-27	PASS
11A	Ant1	High	5825	5850~5855	-31.6	≤15.73	PASS
11A	Ant1	High	5825	5855~5875	-33.29	≤10.44	PASS
11A	Ant1	High	5825	5875~5925	-32.24	≤-26.31	PASS
11A	Ant1	High	5825	5925~5935	-31.3	≤-27	PASS
11N20SISO	Ant1	Low	5745	5720~5725	-33.72	≤16.08	PASS
11N20SISO	Ant1	Low	5745	5700~5720	-33.4	≤10.22	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-32.68	≤-26.79	PASS
11N20SISO	Ant1	Low	5745	5760~5650	-32.7	≤-27	PASS
11N20SISO	Ant1	High	5825	5850~5855	-33.66	≤16.03	PASS
11N20SISO	Ant1	High	5825	5855~5875	-33.39	≤10.17	PASS
11N20SISO	Ant1	High	5825	5875~5925	-31.91	≤-26.01	PASS
11N20SISO	Ant1	High	5825	5925~5935	-31.87	≤-27	PASS
11N40SISO	Ant1	Low	5755	5720~5725	-32.99	≤16.04	PASS
11N40SISO	Ant1	Low	5755	5700~5720	-33.16	≤10.32	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-33.53	≤-26.80	PASS
11N40SISO	Ant1	Low	5755	5780~5650	-31.85	≤-27	PASS
11N40SISO	Ant1	High	5795	5850~5855	-32.96	≤15.66	PASS
11N40SISO	Ant1	High	5795	5855~5875	-32.95	≤10.06	PASS
11N40SISO	Ant1	High	5795	5875~5925	-32.15	≤-26.95	PASS
11N40SISO	Ant1	High	5795	5925~5935	-32.16	≤-27	PASS
11AC20SISO	Ant1	Low	5745	5720~5725	-32.75	≤16.34	PASS
11AC20SISO	Ant1	Low	5745	5700~5720	-33.03	≤10.44	PASS
11AC20SISO	Ant1	Low	5745	5650~5700	-32.46	≤-26.96	PASS
11AC20SISO	Ant1	Low	5745	5760~5650	-32.04	≤-27	PASS
11AC20SISO	Ant1	High	5825	5850~5855	-32.73	≤15.73	PASS
11AC20SISO	Ant1	High	5825	5855~5875	-32.08	≤10.29	PASS
11AC20SISO	Ant1	High	5825	5875~5925	-33.14	≤-26.71	PASS

11AC20SISO	Ant1	High	5825	5925~5935	-31.94	≤-27	PASS
11AC40SISO	Ant1	Low	5755	5720~5725	-33.96	≤15.74	PASS
11AC40SISO	Ant1	Low	5755	5700~5720	-32.68	≤10.10	PASS
11AC40SISO	Ant1	Low	5755	5650~5700	-33.02	≤-26.70	PASS
11AC40SISO	Ant1	Low	5755	5780~5650	-31.66	≤-27	PASS
11AC40SISO	Ant1	High	5795	5850~5855	-33.49	≤15.66	PASS
11AC40SISO	Ant1	High	5795	5855~5875	-32.7	≤10.02	PASS
11AC40SISO	Ant1	High	5795	5875~5925	-31.97	≤-26.34	PASS
11AC40SISO	Ant1	High	5795	5925~5935	-31.09	≤-27	PASS
11AC80SISO	Ant1	Low	5775	5720~5725	-28.8	≤16.00	PASS
11AC80SISO	Ant1	Low	5775	5700~5720	-28.38	≤11.83	PASS
11AC80SISO	Ant1	Low	5775	5650~5700	-30.43	≤-26.69	PASS
11AC80SISO	Ant1	Low	5775	5800~5650	-30.25	≤-27	PASS
11AC80SISO	Ant1	High	5775	5850~5855	-33.77	≤15.84	PASS
11AC80SISO	Ant1	High	5775	5855~5875	-32.61	≤10.55	PASS
11AC80SISO	Ant1	High	5775	5875~5925	-32.06	≤-26.87	PASS
11AC80SISO	Ant1	High	5775	5925~5935	-31.34	≤-27	PASS

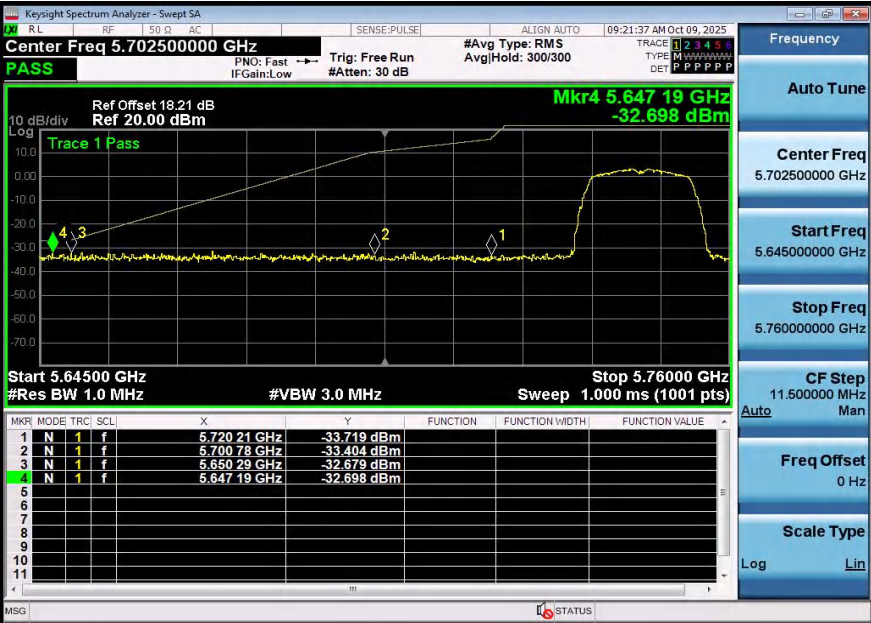
Test plot as follows:



11A-Ant1-5745



11A-Ant1-5825



11N20SISO-Ant1-5745



11N20SISO-Ant1-5825



11N40SISO-Ant1-5755



11N40SISO-Ant1-5795



11AC20SISO-Ant1-5745



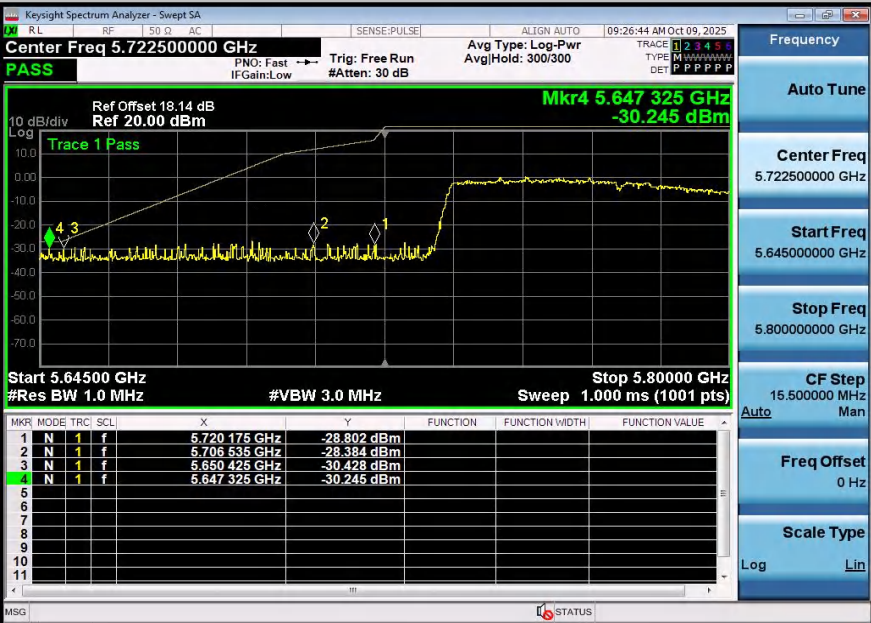
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11AC40SISO-Ant1-5755



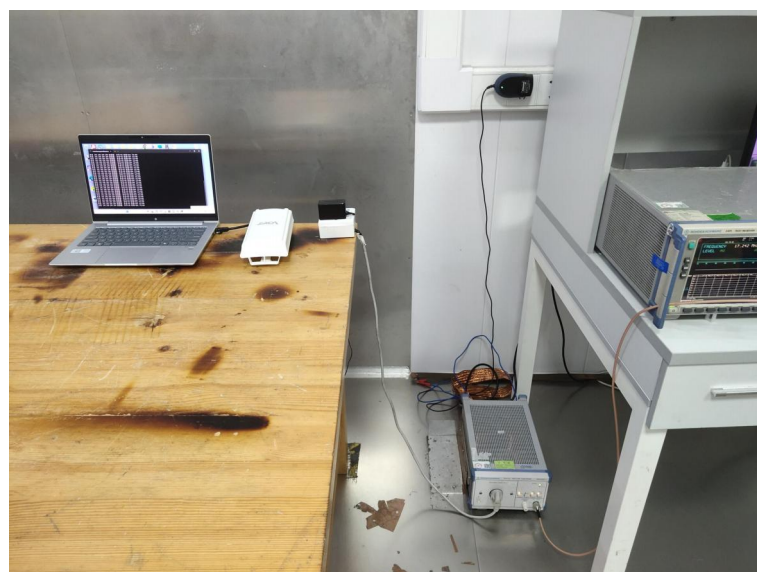
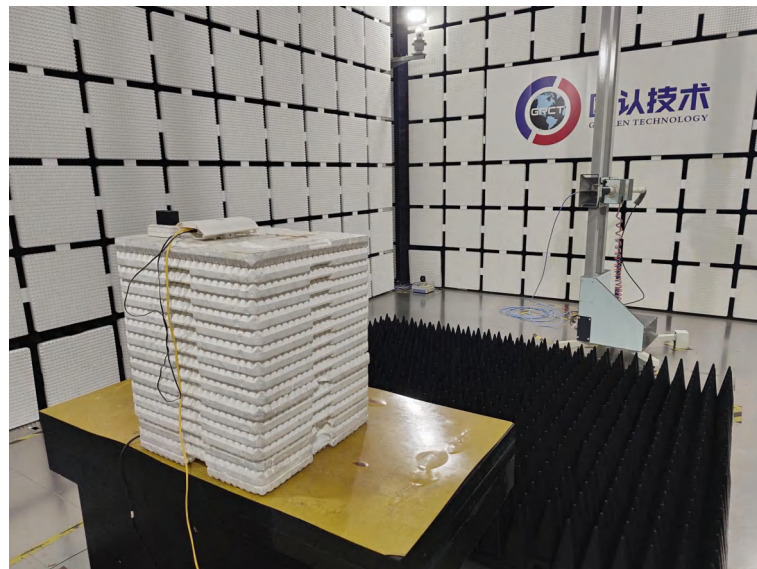
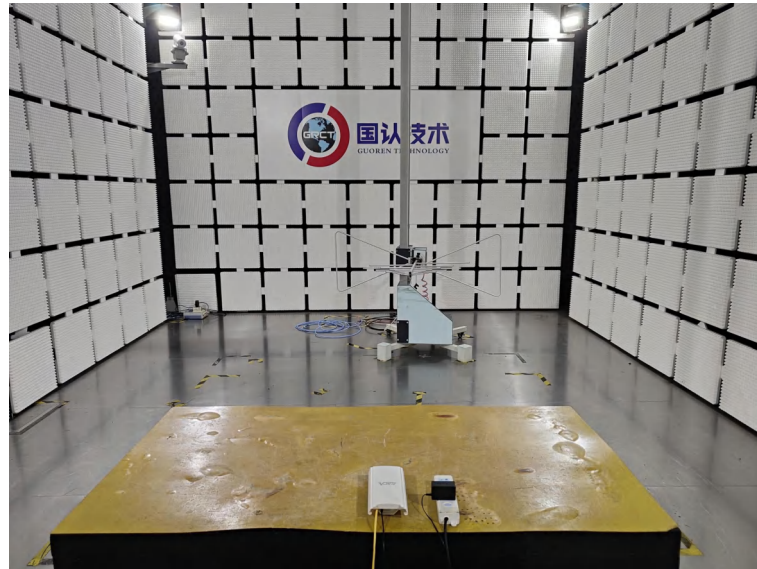
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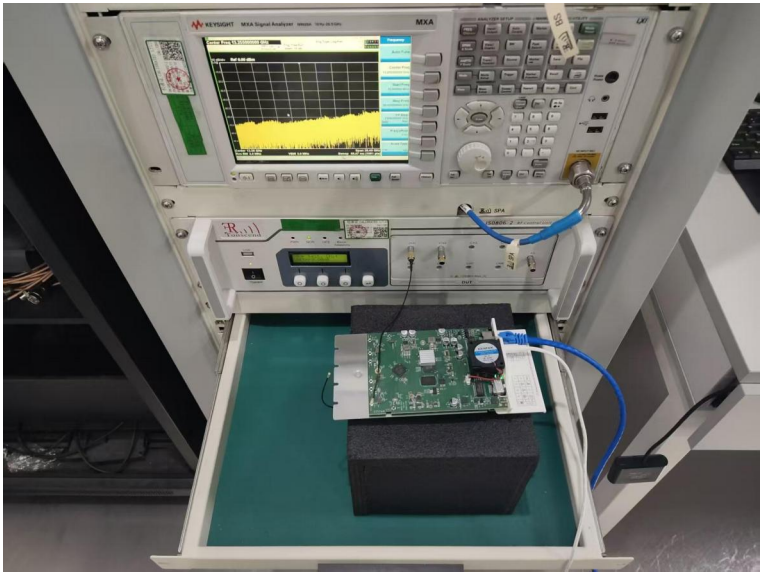


11AC80SISO-Ant1-5775

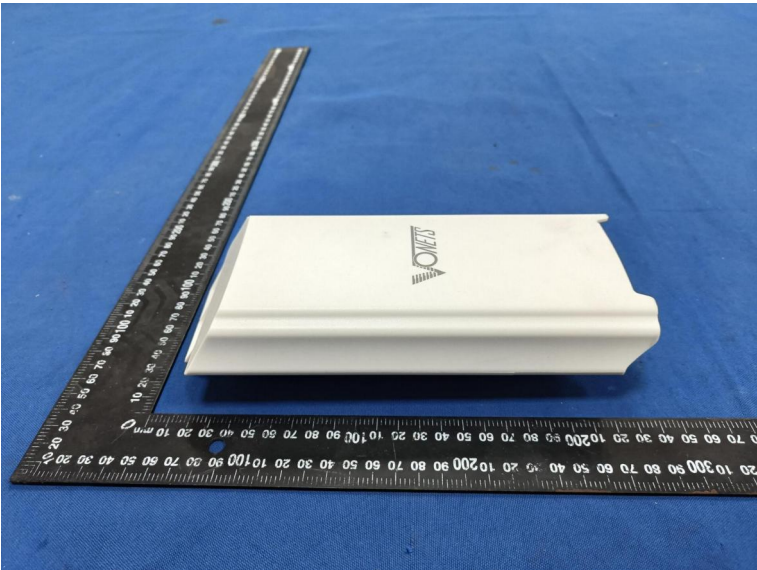
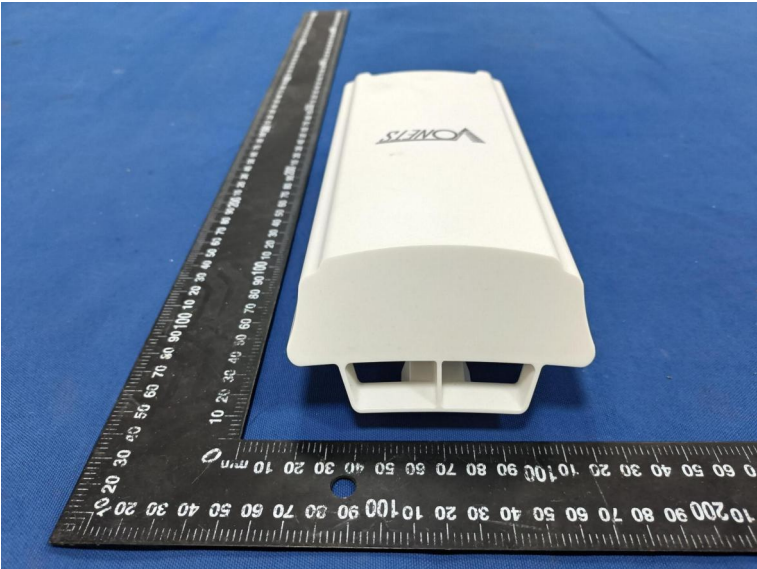


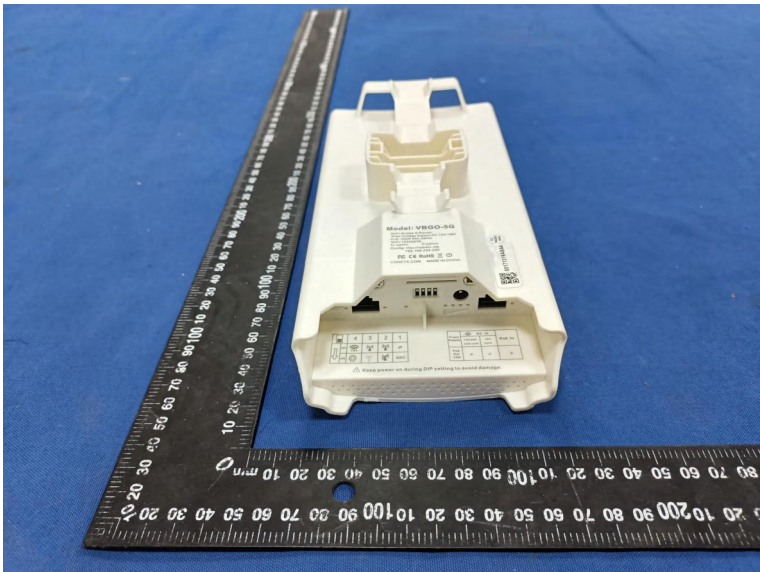
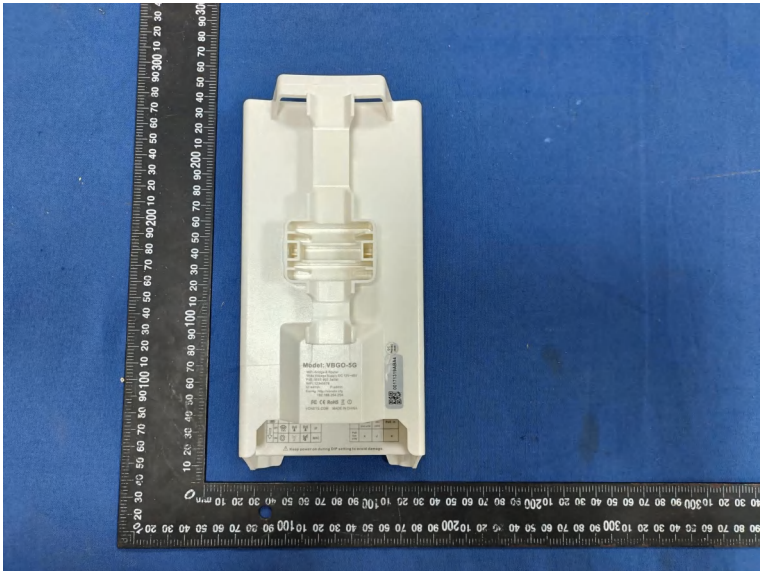
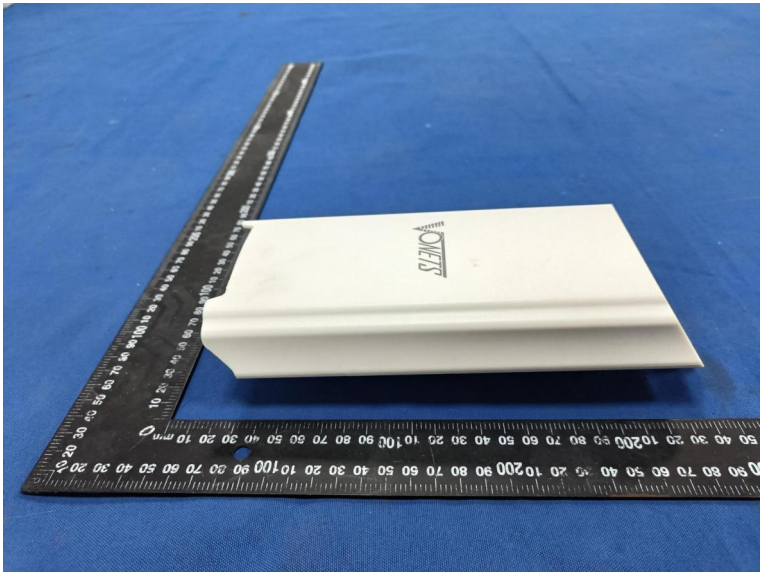
5 Test Setup Photos of the EUT





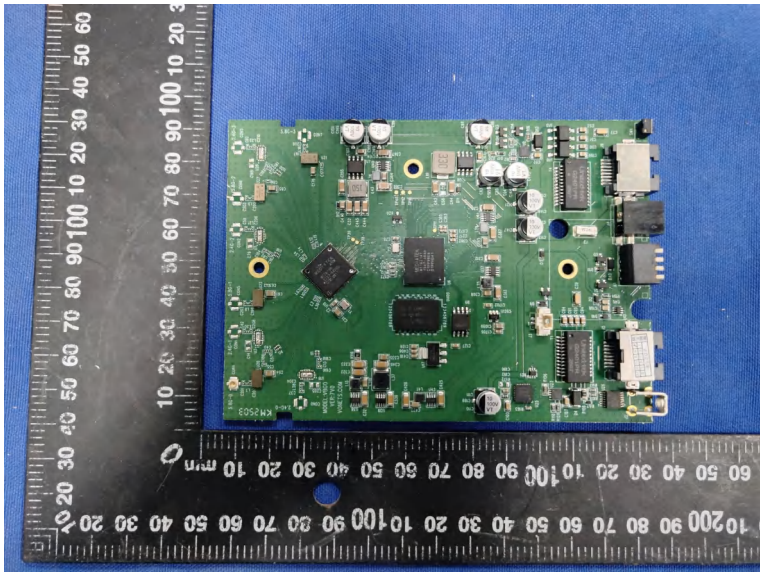
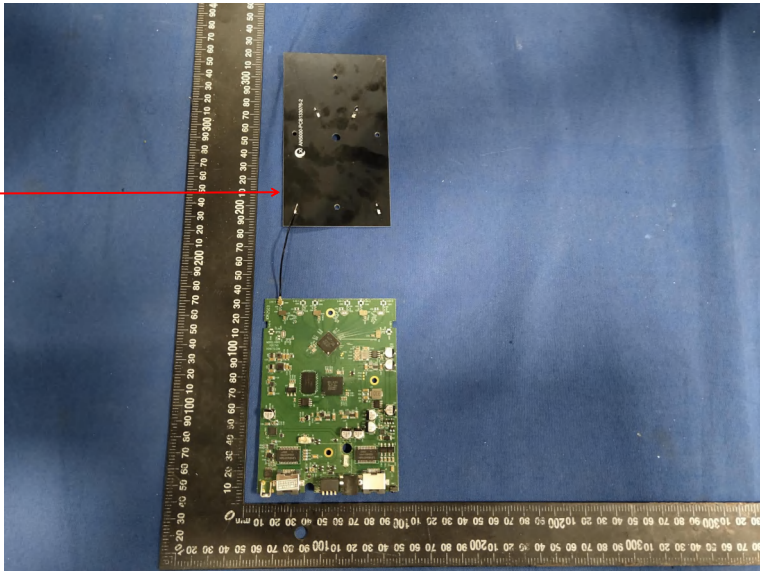
6 Photos of the EUT

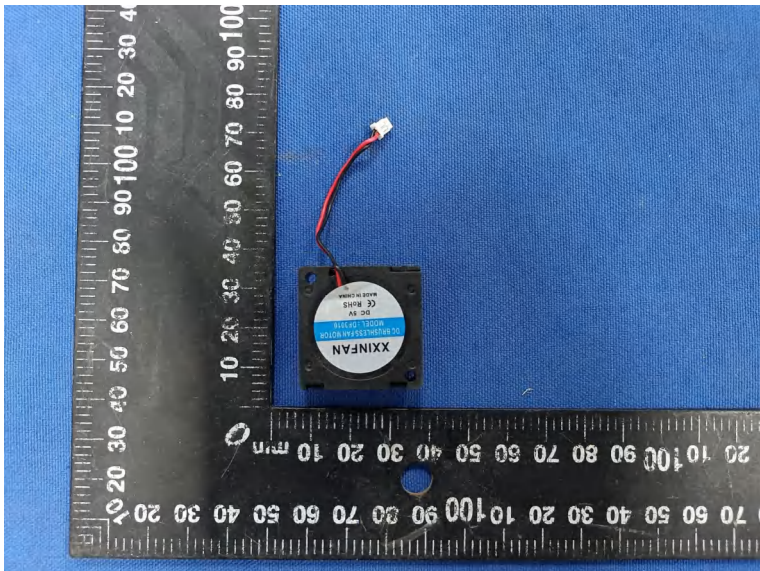
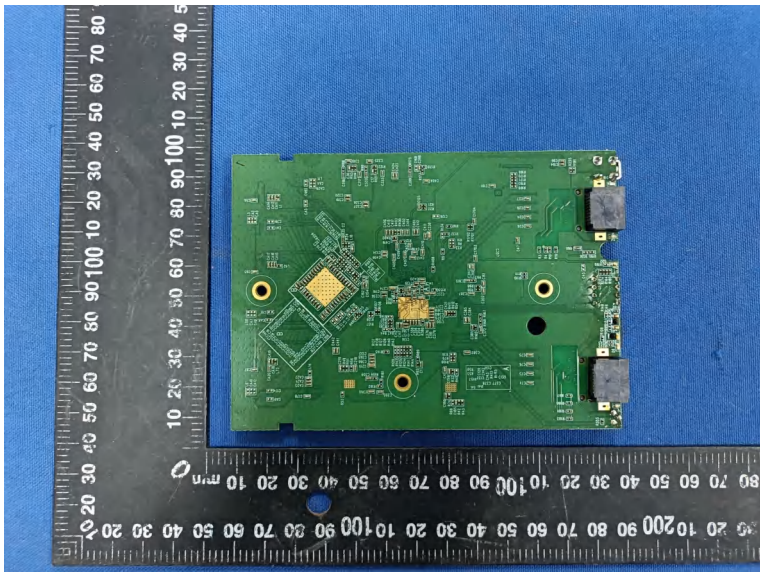






WIFI5G
Antenna





***** End of Report *****