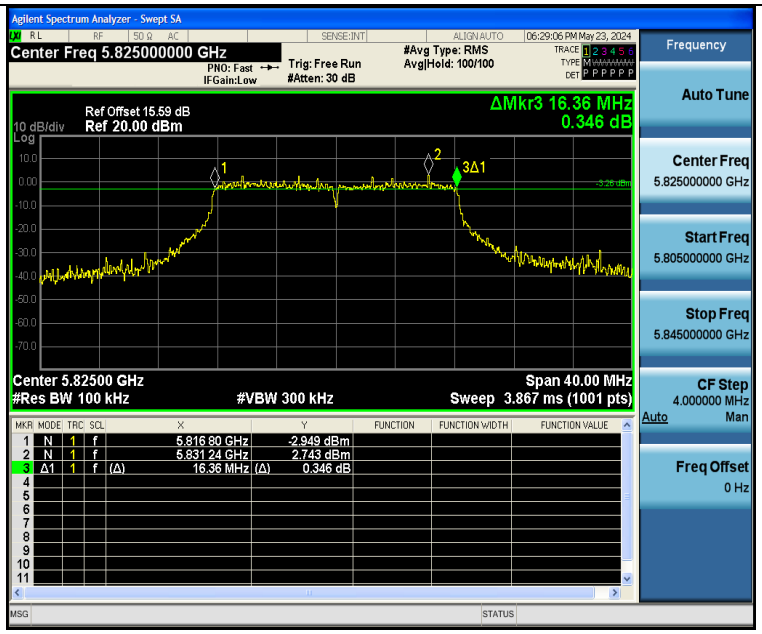
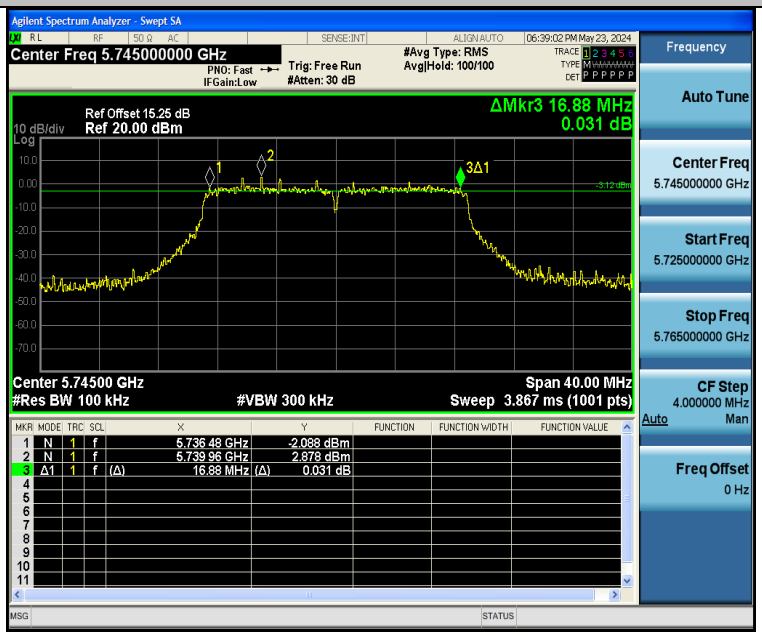
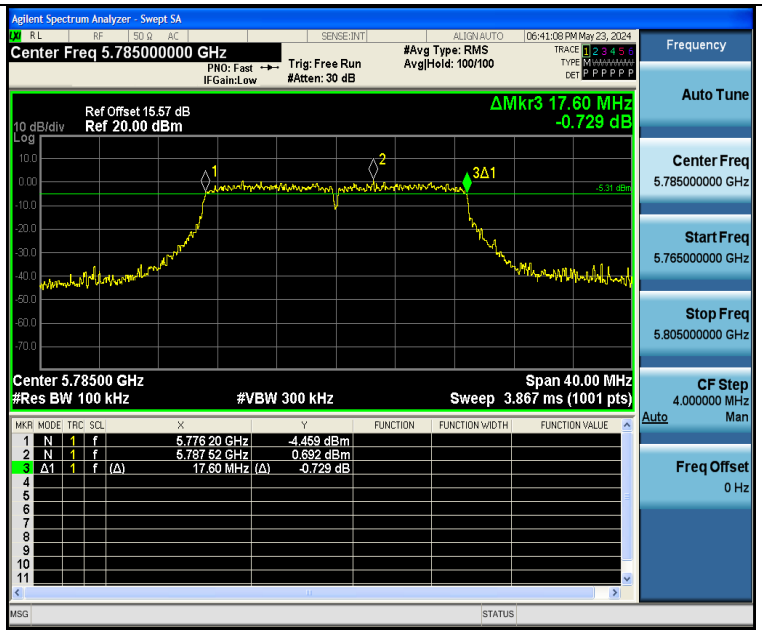


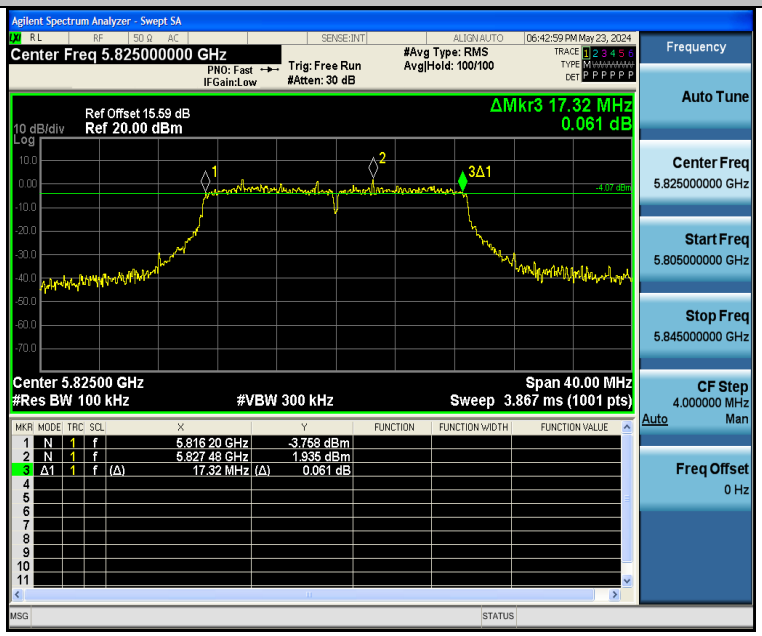
11A-Ant1-5825-PASS



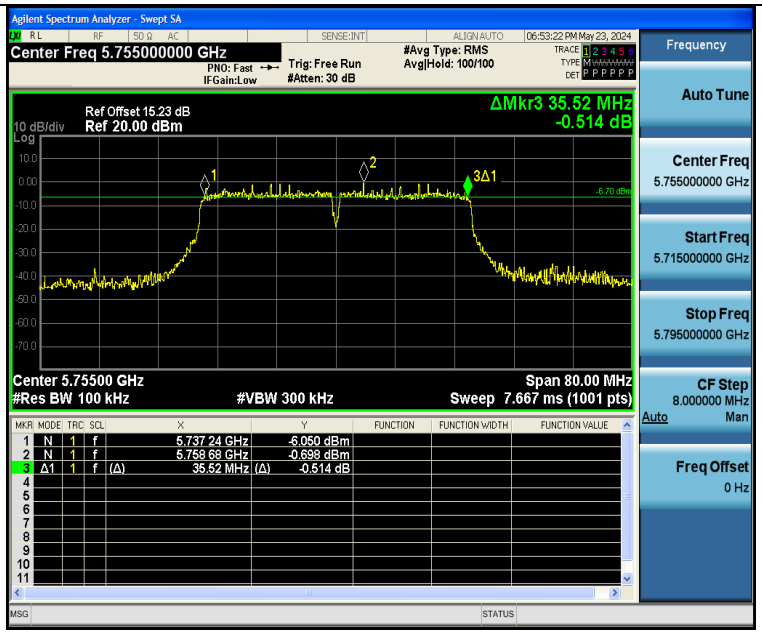
11N20SISO-Ant1-5745-PASS



11N20SISO-Ant1-5785-PASS



11N20SISO-Ant1-5825-PASS



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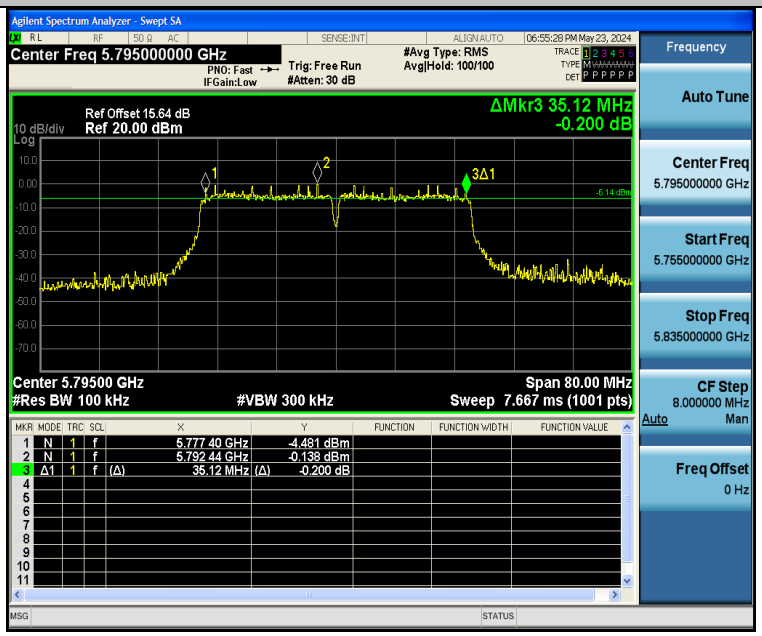
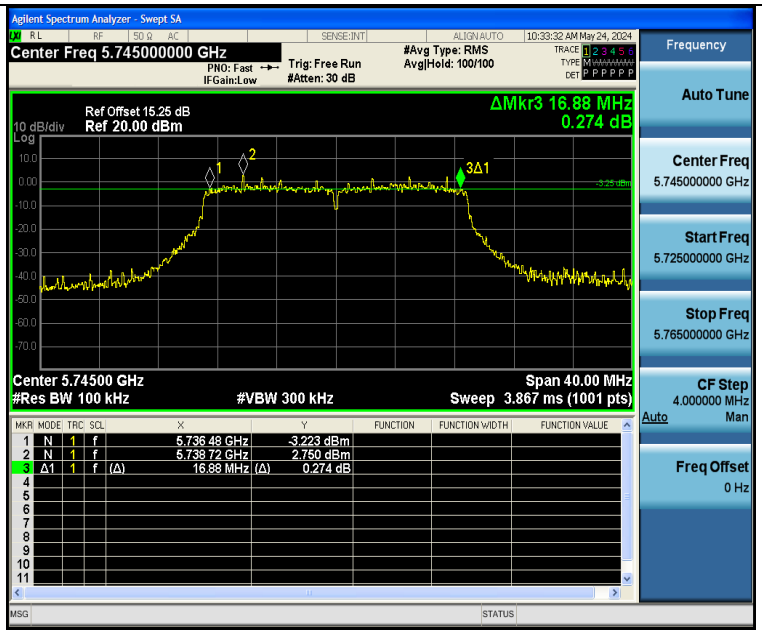


11N40SISO-Ant1-5795-PASS



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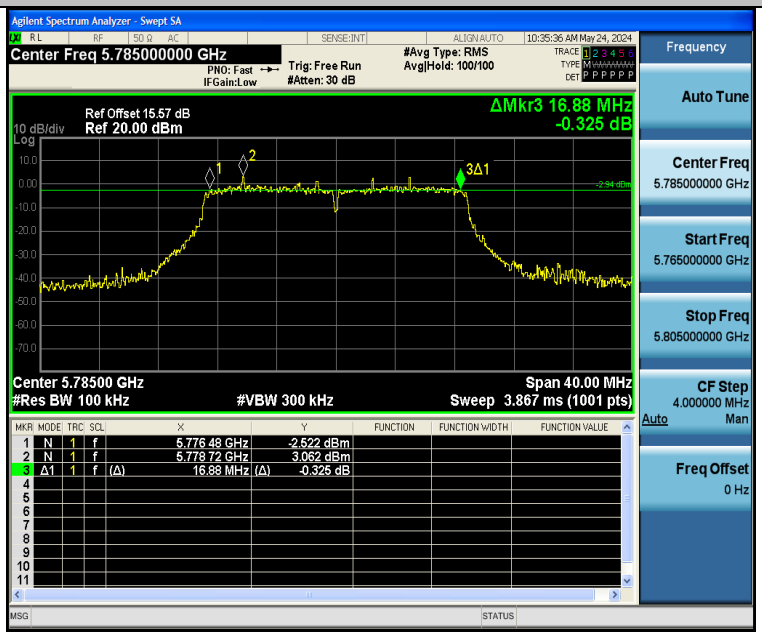

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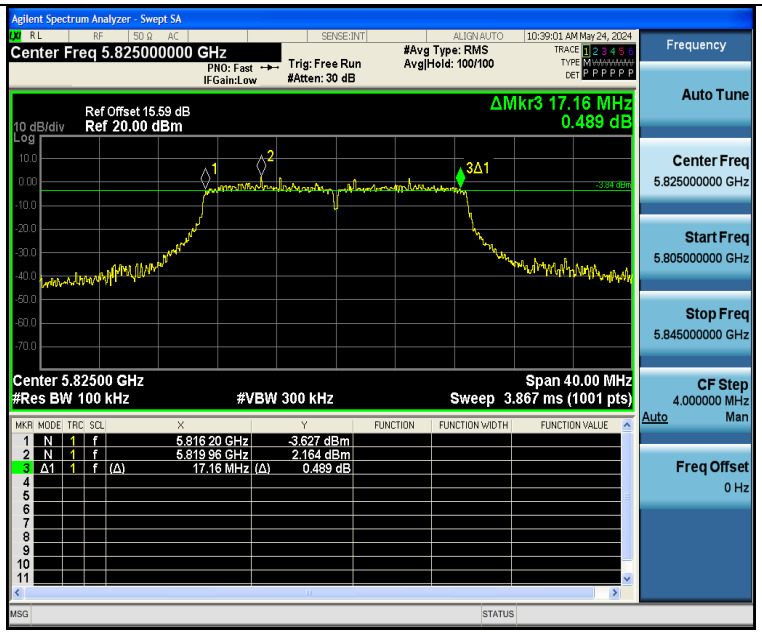
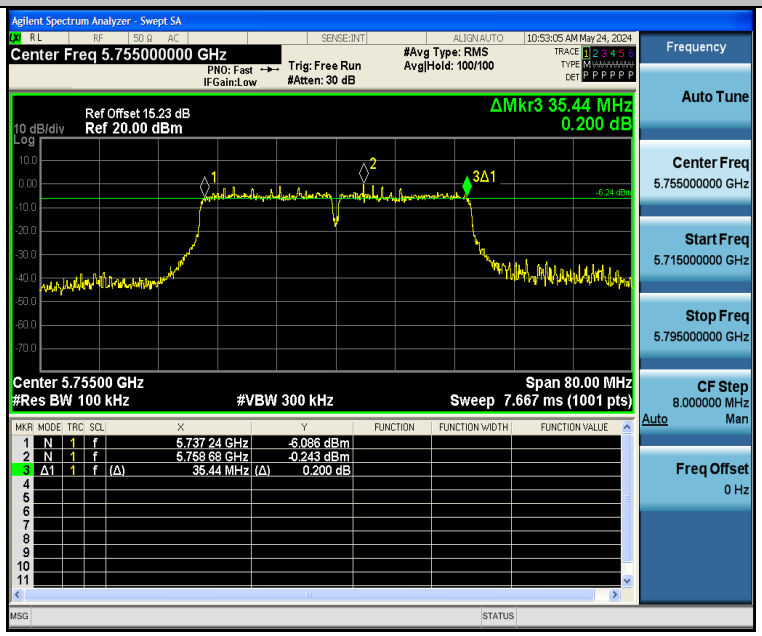
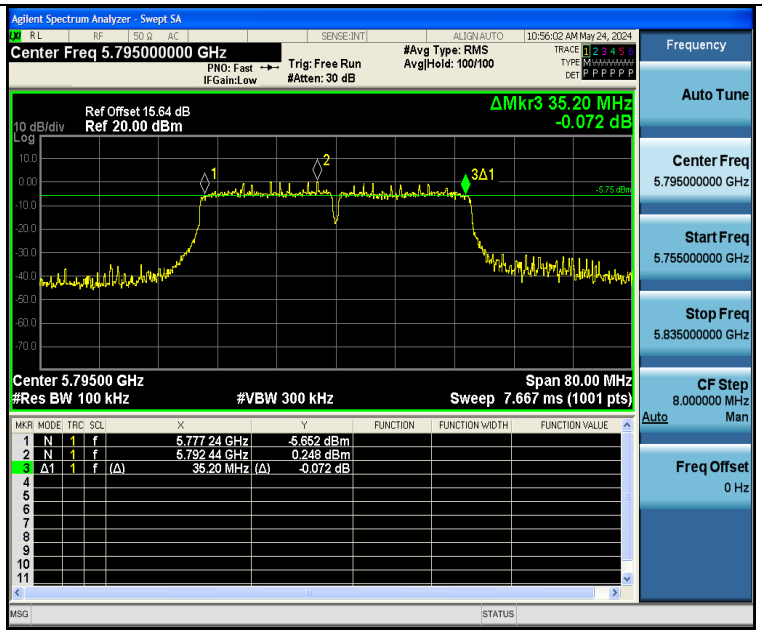


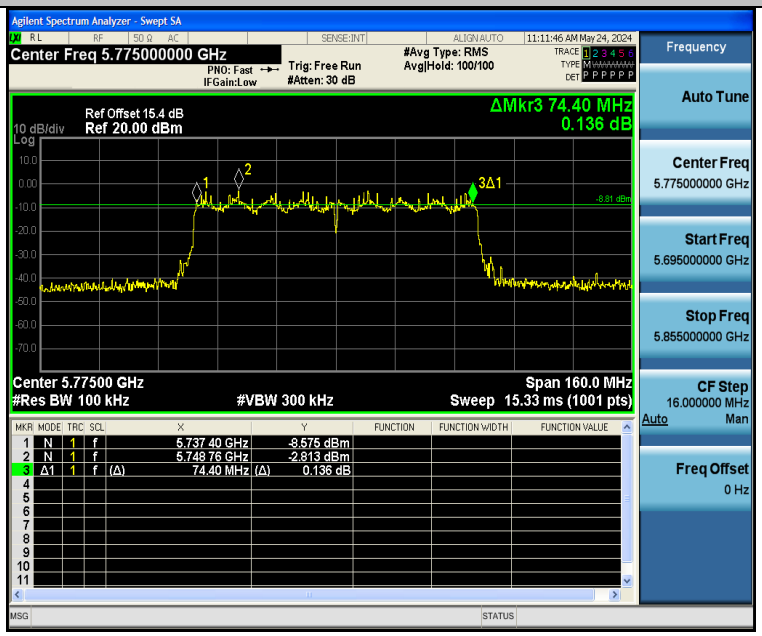
11AC20SISO-Ant1-5825-PASS



11AC40SISO-Ant1-5755-PASS



11AC40SISO-Ant1-5795-PASS



11AC80SISO-Ant1-5775-PASS

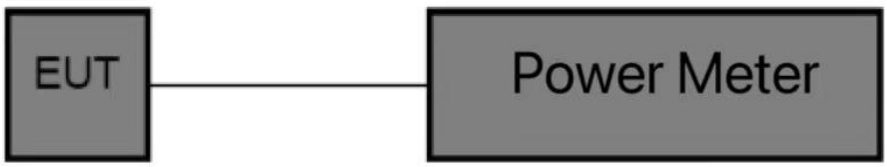
8 Maximum Conducted Output Power

Test Requirement	:	FCC CFR47 Part 15 Section 15.407
Test Method	:	ANSI C63.10:2013
Test Limit	:	For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

8.1 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, The use Power Meter 1. Place the EUT on a bench and set it in transmitting mode. 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a Power meter.

8.2 Test Setup



8.3 Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Power [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	12.17	≤23.98	PASS
11A	Ant1	5200	14.43	≤23.98	PASS
11A	Ant1	5240	16.42	≤23.98	PASS
11A	Ant1	5745	14.57	≤30.00	PASS
11A	Ant1	5785	14.35	≤30.00	PASS
11A	Ant1	5825	14.56	≤30.00	PASS
11N20SISO	Ant1	5180	12.29	≤23.98	PASS
11N20SISO	Ant1	5200	14.10	≤23.98	PASS
11N20SISO	Ant1	5240	15.94	≤23.98	PASS
11N20SISO	Ant1	5745	13.69	≤30.00	PASS
11N20SISO	Ant1	5785	13.77	≤30.00	PASS
11N20SISO	Ant1	5825	13.57	≤30.00	PASS
11N40SISO	Ant1	5190	13.17	≤23.98	PASS
11N40SISO	Ant1	5230	15.39	≤23.98	PASS
11N40SISO	Ant1	5755	13.70	≤30.00	PASS
11N40SISO	Ant1	5795	13.90	≤30.00	PASS
11AC20SISO	Ant1	5180	12.80	≤23.98	PASS
11AC20SISO	Ant1	5200	13.84	≤23.98	PASS
11AC20SISO	Ant1	5240	15.90	≤23.98	PASS
11AC20SISO	Ant1	5745	13.54	≤30.00	PASS
11AC20SISO	Ant1	5785	13.87	≤30.00	PASS
11AC20SISO	Ant1	5825	13.60	≤30.00	PASS
11AC40SISO	Ant1	5190	13.55	≤23.98	PASS
11AC40SISO	Ant1	5230	16.08	≤23.98	PASS
11AC40SISO	Ant1	5755	13.88	≤30.00	PASS
11AC40SISO	Ant1	5795	14.53	≤30.00	PASS
11AC80SISO	Ant1	5210	13.77	≤23.98	PASS
11AC80SISO	Ant1	5775	13.60	≤30.00	PASS

9 Power Spectral density

Test Requirement	:	FCC CFR47 Part 15 Section 15.2407(a)
Test Method	:	ANSI C63.10:2013
Test Limit	:	For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHzband. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-tomultipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations

9.1 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI 63.10: 2013 Sec 10.3.7.For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in Section 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, “provided that the measured power is integrated over the full reference bandwidth” to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

a) Set the RBW to 1 MHz.

b) Set the VBW to be at least 1 MHz (a VBW of 3 MHz is desirable).

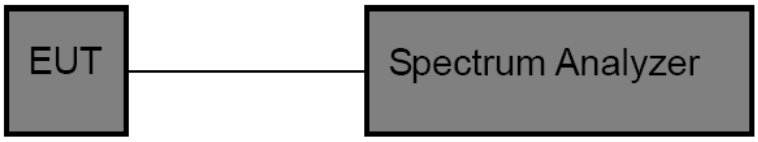
c) Set the frequency span to examine the spectrum across a convenient frequency segment (e.g., 600 MHz).

d) Select the power averaging (rms) detector.

e) Set the sweep time so that there is no more than a 1 ms integration period over each measurement bin.

f) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

9.2 Test Setup



9.3 Test Result

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations / data rates and antenna ports.

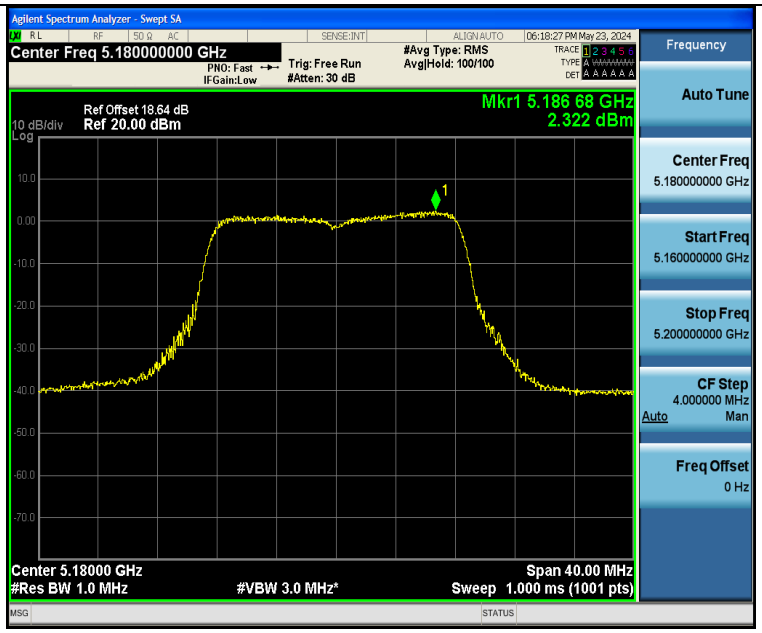
Following channel was selected for the final test as listed below

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	2.32	≤11.00	PASS
11A	Ant1	5200	3.69	≤11.00	PASS
11A	Ant1	5240	5.6	≤11.00	PASS
11N20SISO	Ant1	5180	1.81	≤11.00	PASS
11N20SISO	Ant1	5200	3.65	≤11.00	PASS
11N20SISO	Ant1	5240	4.74	≤11.00	PASS
11N40SISO	Ant1	5190	-1.06	≤11.00	PASS
11N40SISO	Ant1	5230	2.64	≤11.00	PASS
11AC20SISO	Ant1	5180	1.82	≤11.00	PASS
11AC20SISO	Ant1	5200	3.05	≤11.00	PASS
11AC20SISO	Ant1	5240	4.64	≤11.00	PASS
11AC40SISO	Ant1	5190	-0.51	≤11.00	PASS
11AC40SISO	Ant1	5230	2.04	≤11.00	PASS
11AC80SISO	Ant1	5210	-1.5	≤11.00	PASS

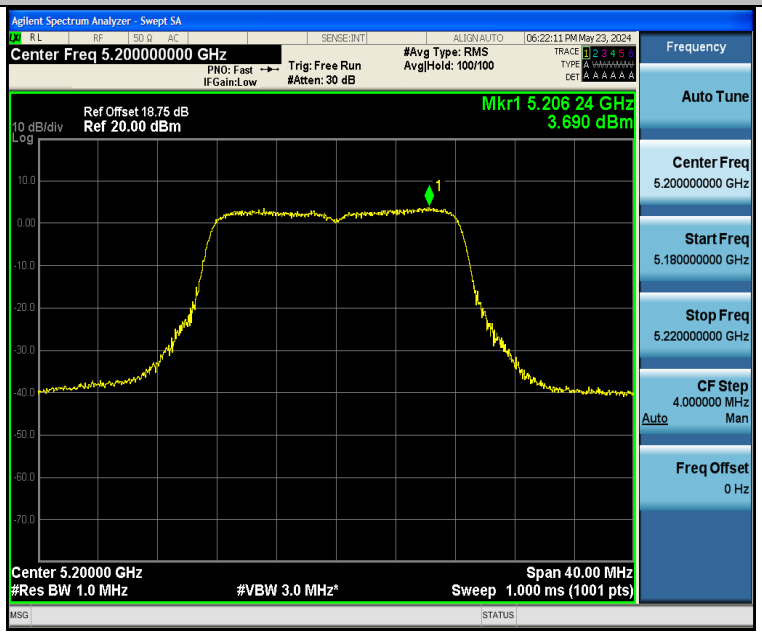
TestMode	Antenna	Frequency[MHz]	Result [dBm/300kHz]	Result [dBm/500kHz]	Limit[dBm/500kHz]	Verdict
11A	Ant1	5745	1.06	3.28	≤30.00	PASS
11A	Ant1	5785	1.01	3.23	≤30.00	PASS
11A	Ant1	5825	1.13	3.35	≤30.00	PASS
11N20SISO	Ant1	5745	-0.23	1.99	≤30.00	PASS
11N20SISO	Ant1	5785	0.14	2.36	≤30.00	PASS
11N20SISO	Ant1	5825	-0.29	1.93	≤30.00	PASS
11N40SISO	Ant1	5755	-3.61	-1.39	≤30.00	PASS
11N40SISO	Ant1	5795	-2.67	-0.45	≤30.00	PASS
11AC20SISO	Ant1	5745	-0.23	1.99	≤30.00	PASS
11AC20SISO	Ant1	5785	0.08	2.30	≤30.00	PASS
11AC20SISO	Ant1	5825	-0.15	2.07	≤30.00	PASS
11AC40SISO	Ant1	5755	-3.23	-1.01	≤30.00	PASS
11AC40SISO	Ant1	5795	-3.03	-0.81	≤30.00	PASS
11AC80SISO	Ant1	5775	-4.81	-2.59	≤30.00	PASS

Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2. in the band 5.725−5.85 GHz the test RBW select 300KHz,so the measured result corrected by Result+10 log (500 kHz/300kHz).

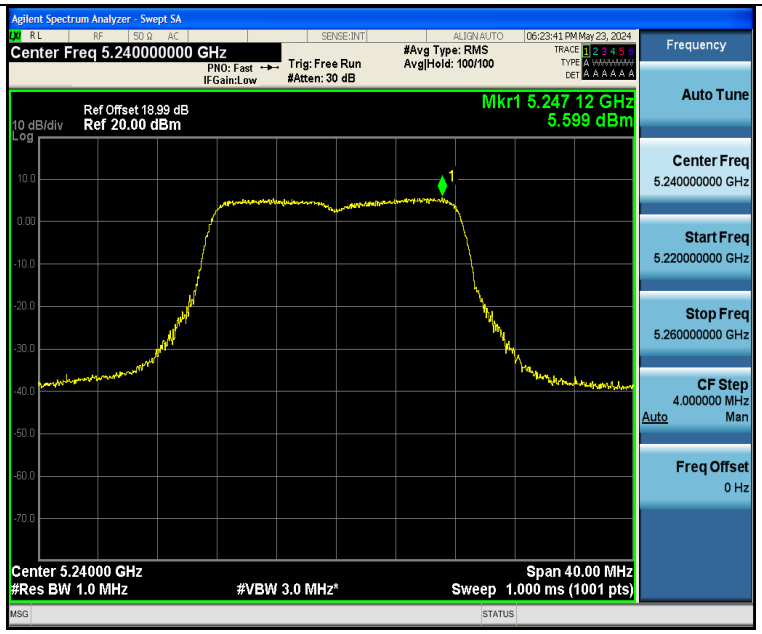
Test Graphs



11A-Ant1-5180-PASS



11A-Ant1-5200-PASS



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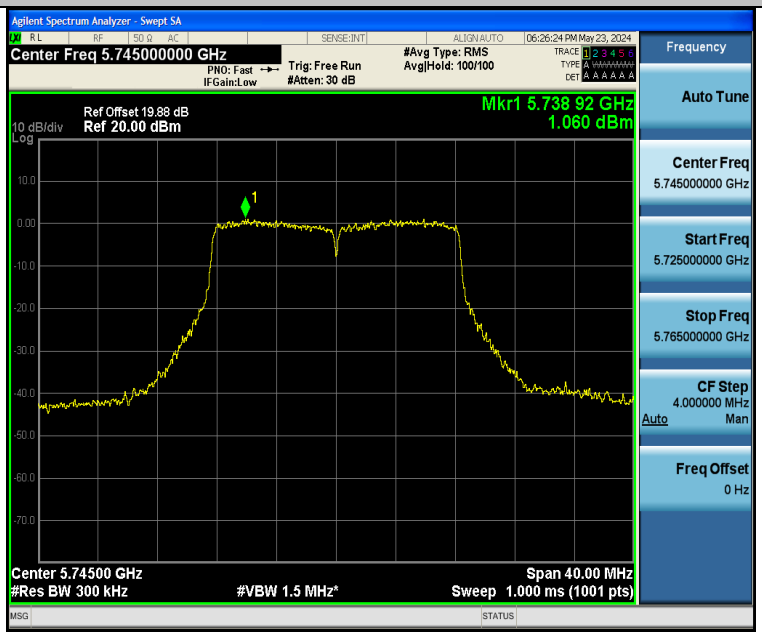

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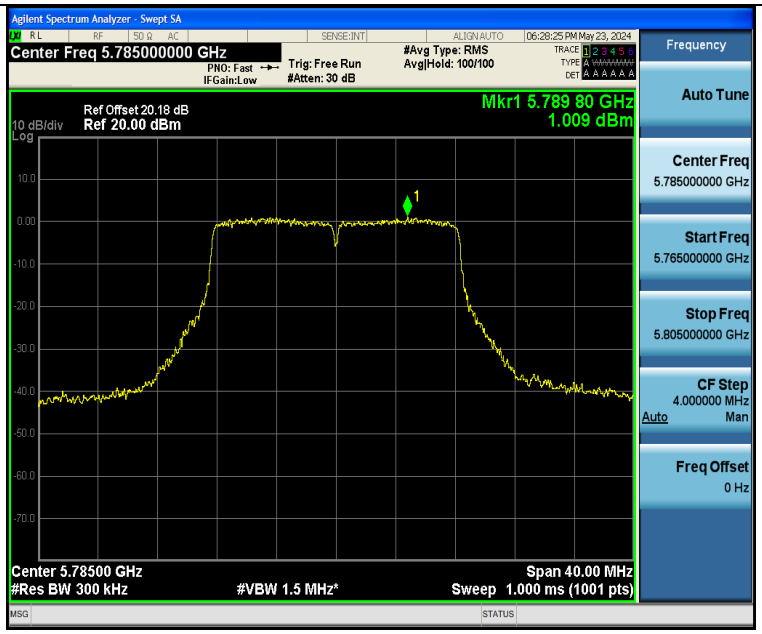

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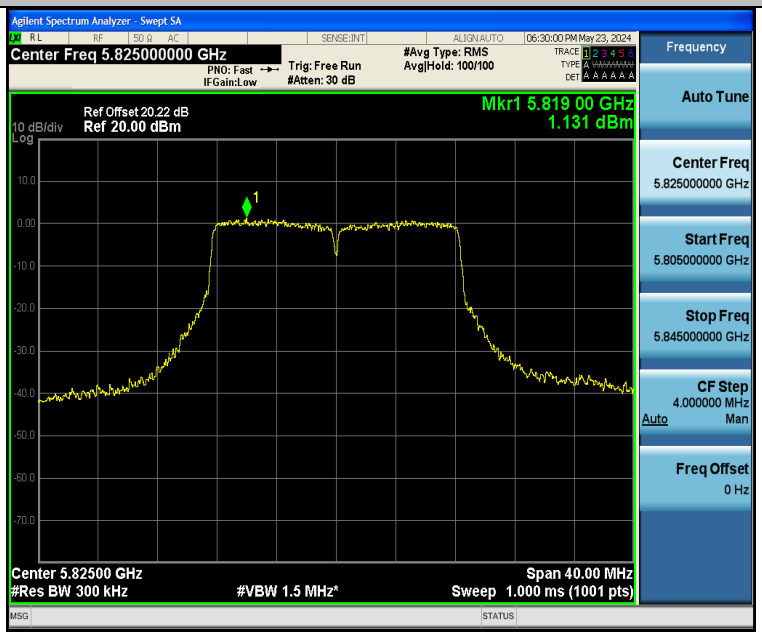

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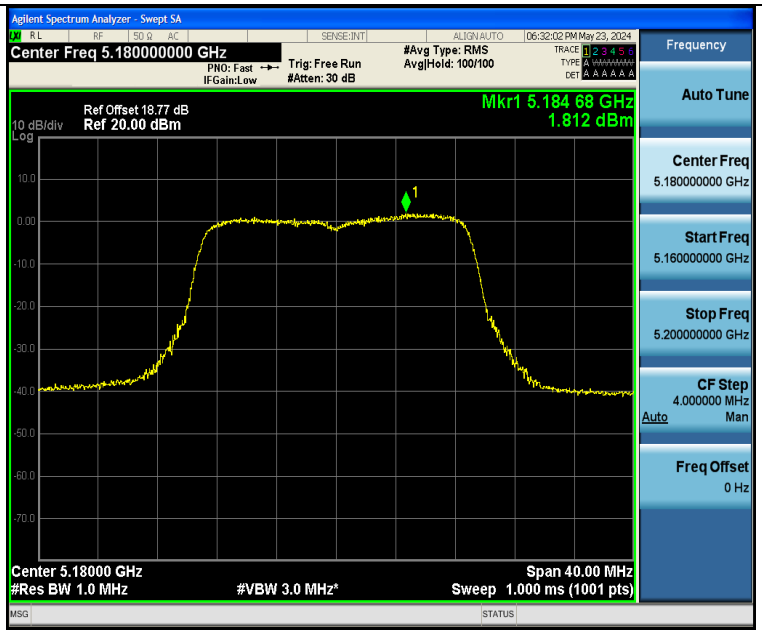

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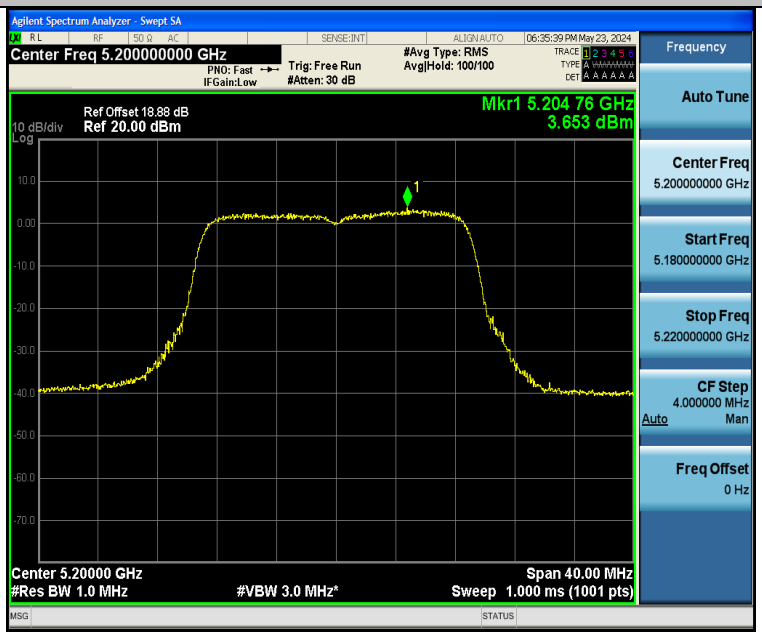

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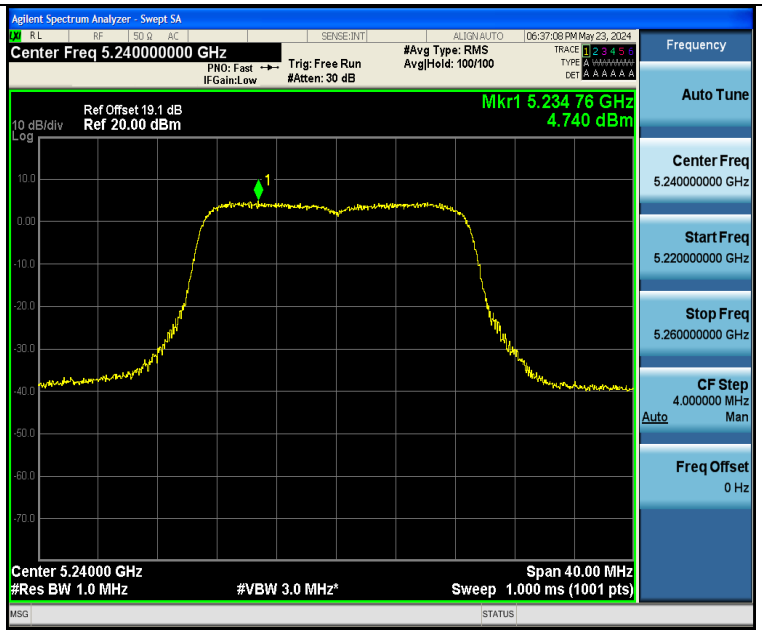

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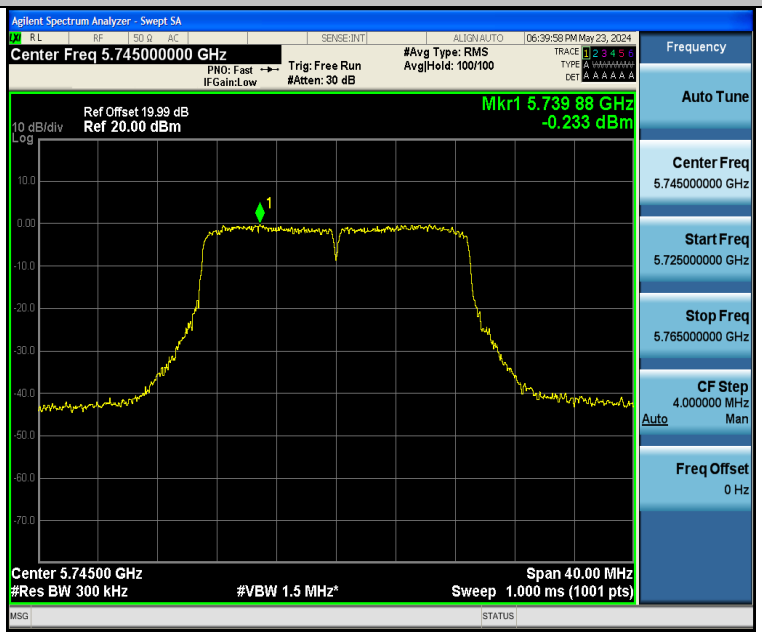

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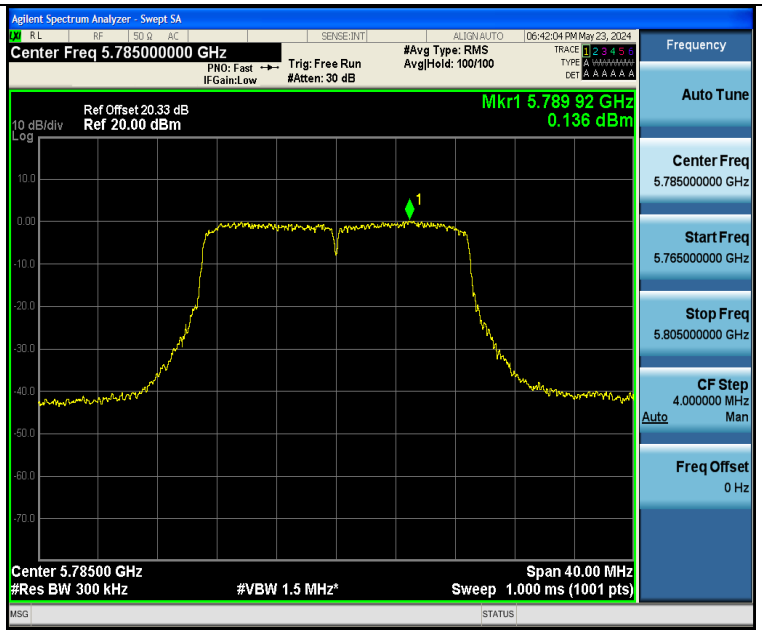

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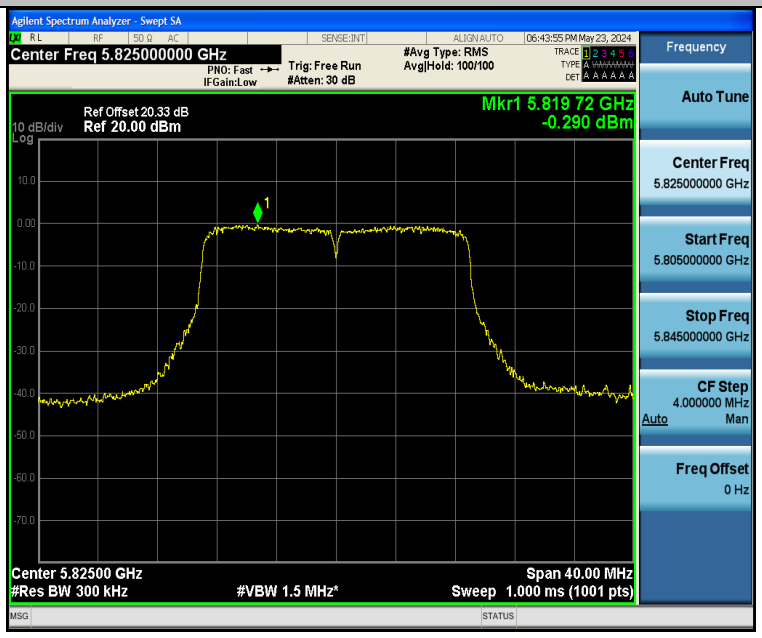
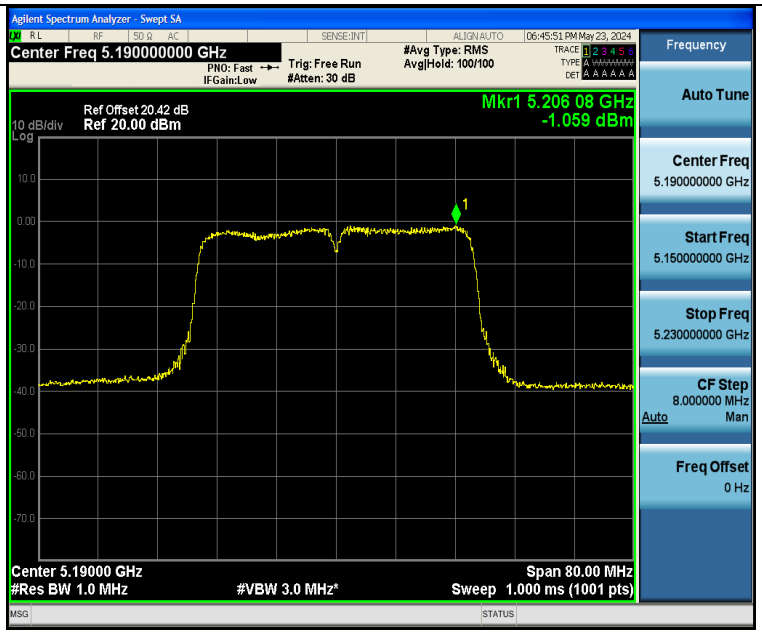
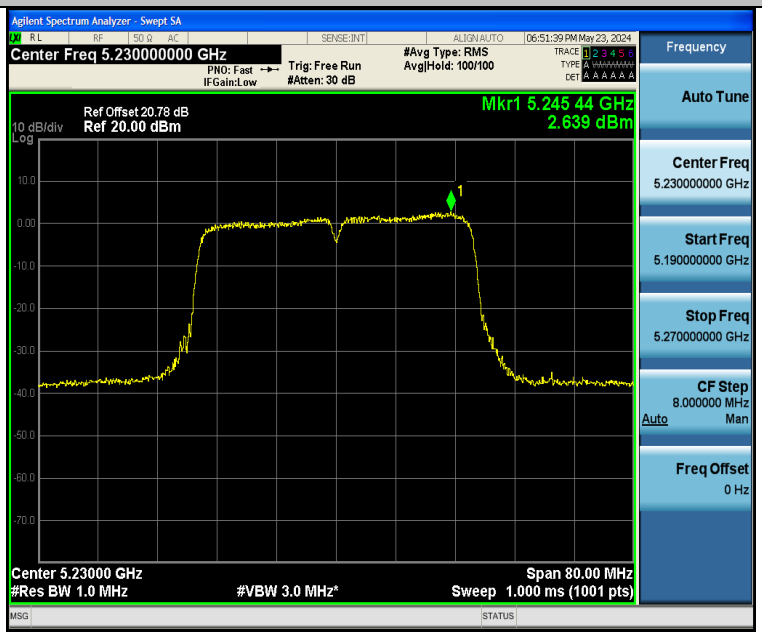


11N20SISO-Ant1-5825-PASS



11N40SISO-Ant1-5190-PASS



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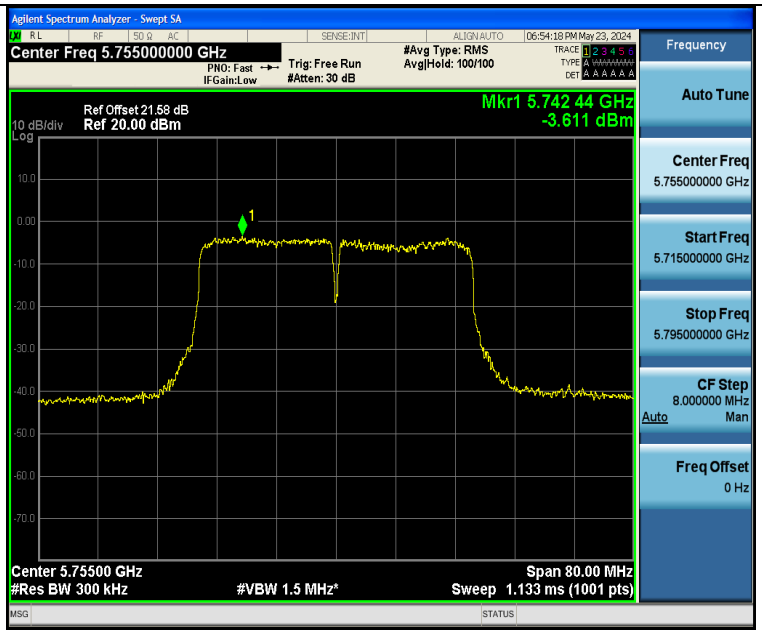
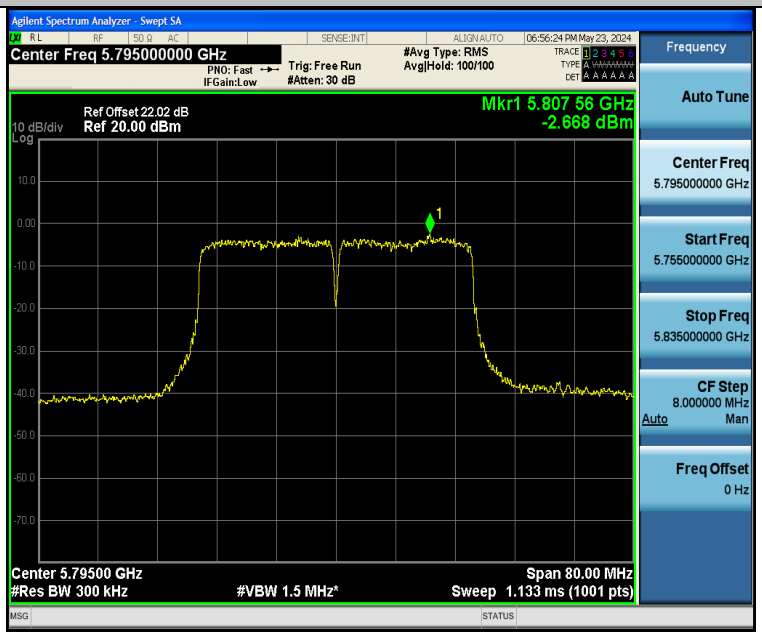
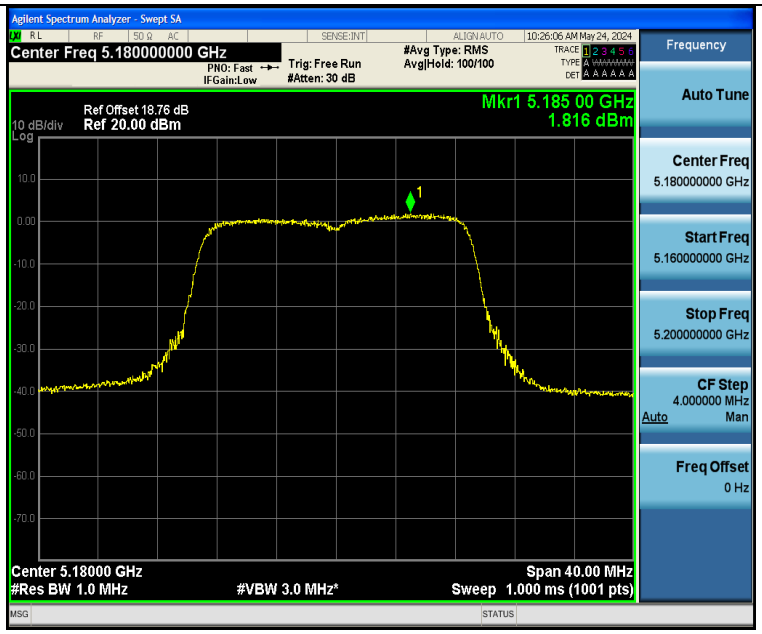


11N40SISO-Ant1-5755-PASS



11N40SISO-Ant1-5795-PASS



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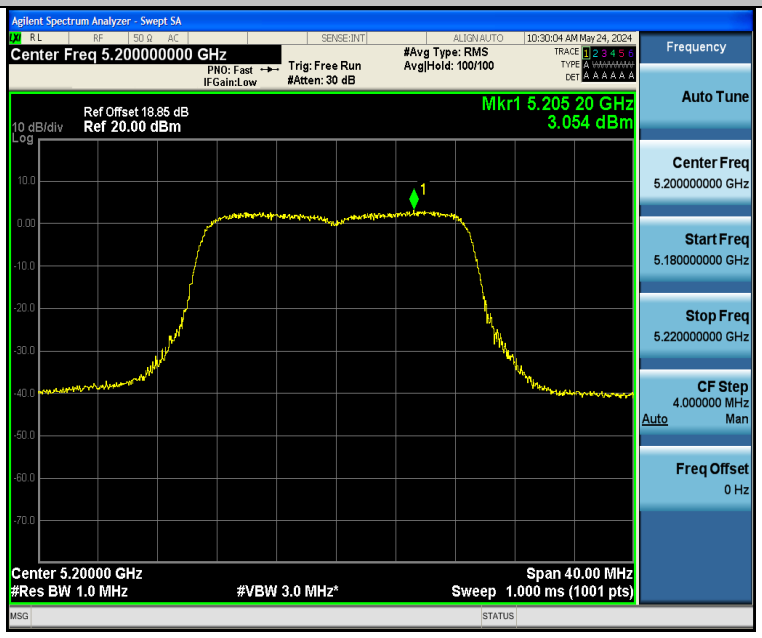

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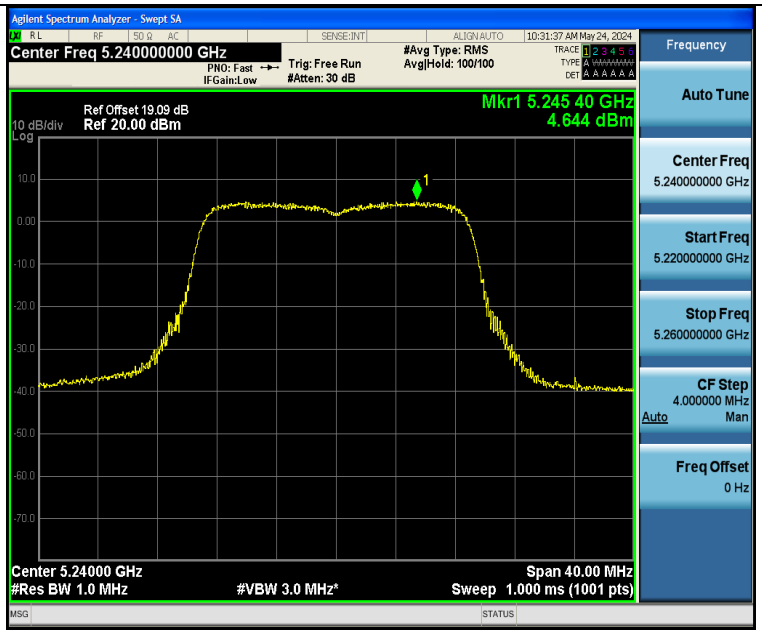

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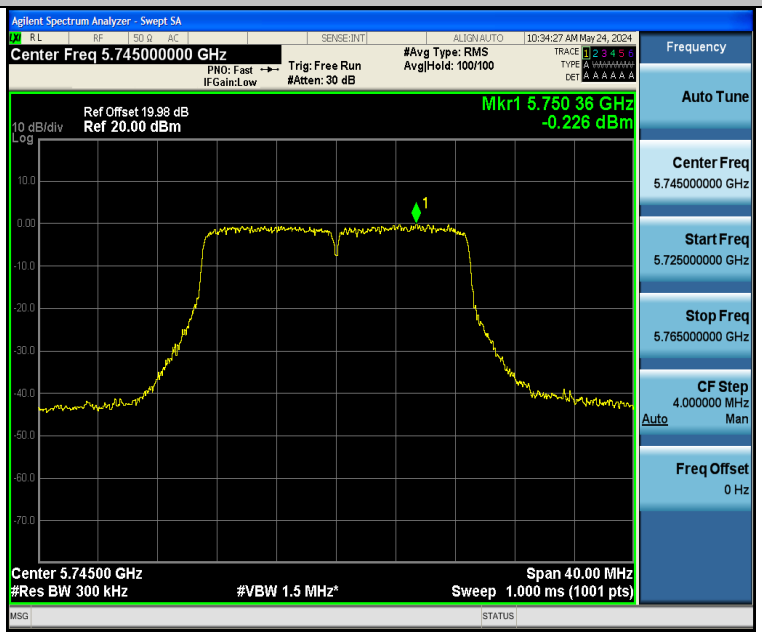
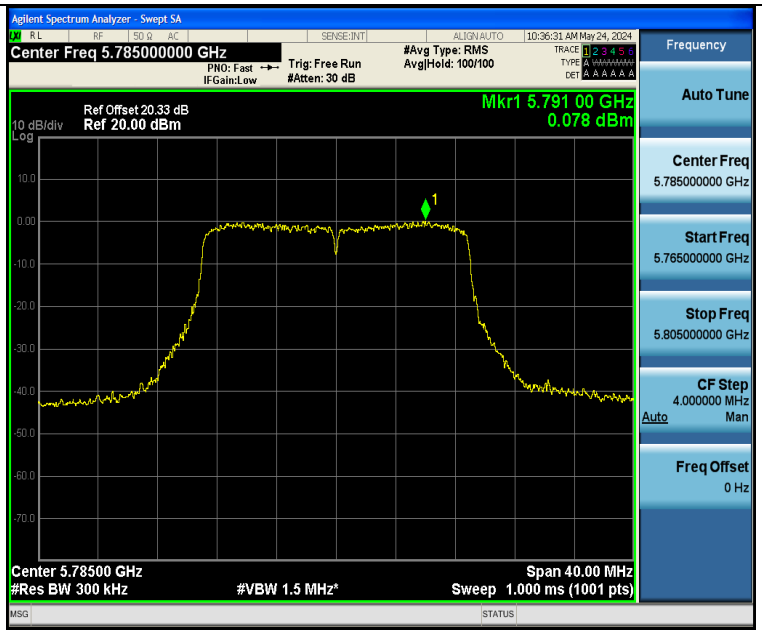
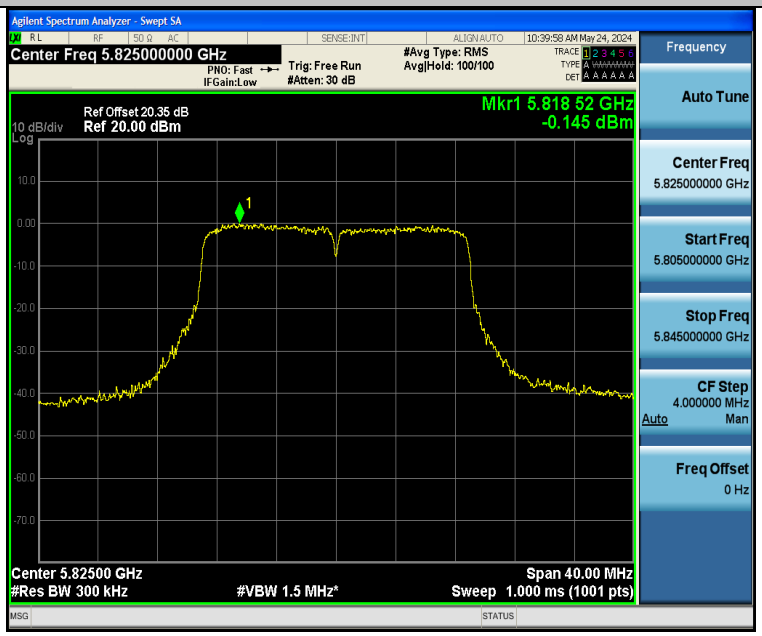


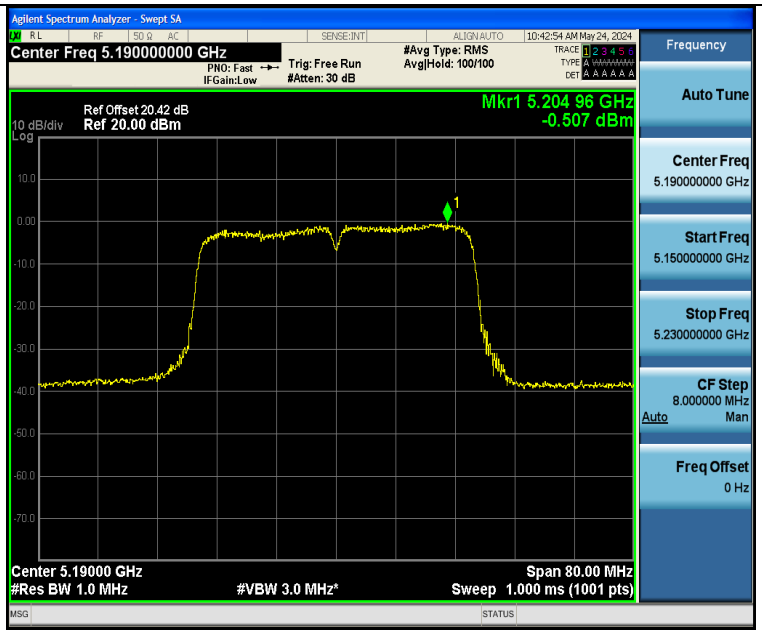
11AC20SISO-Ant1-5745-PASS



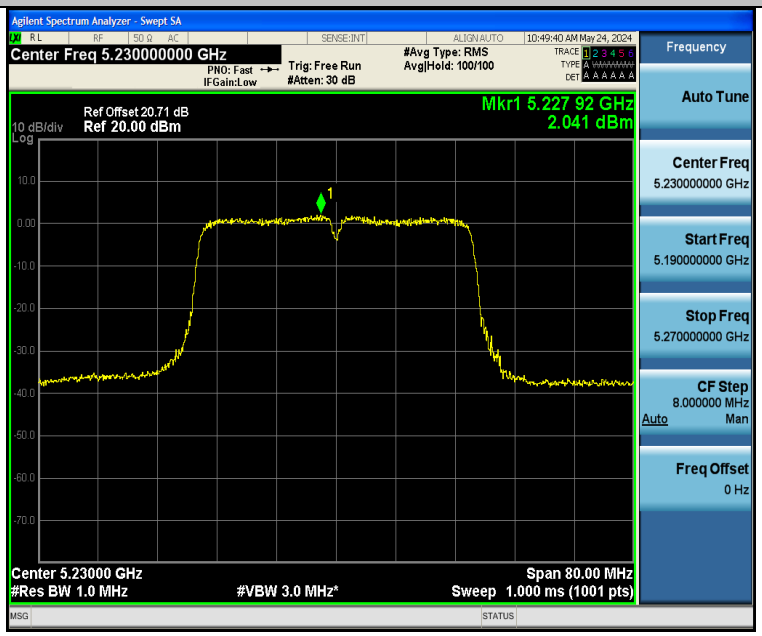
11AC20SISO-Ant1-5785-PASS



11AC20SISO-Ant1-5825-PASS



11AC40SISO-Ant1-5190-PASS



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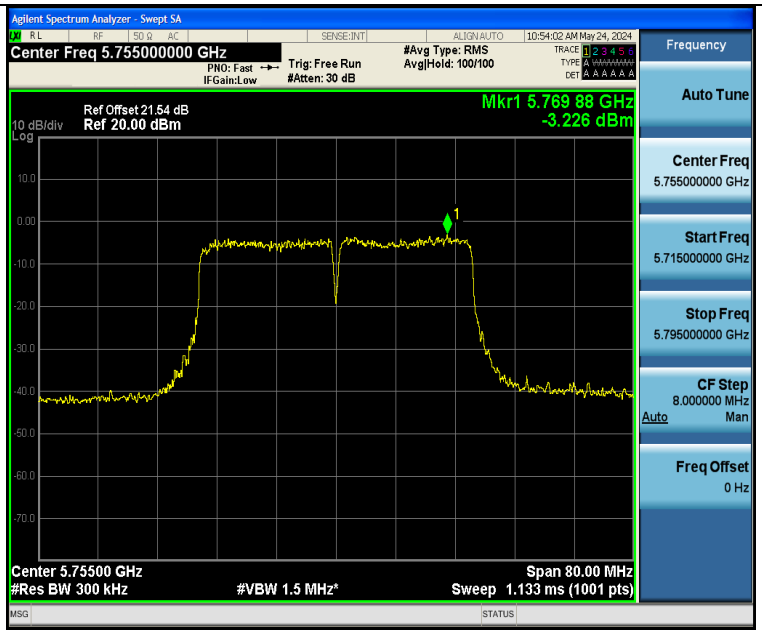

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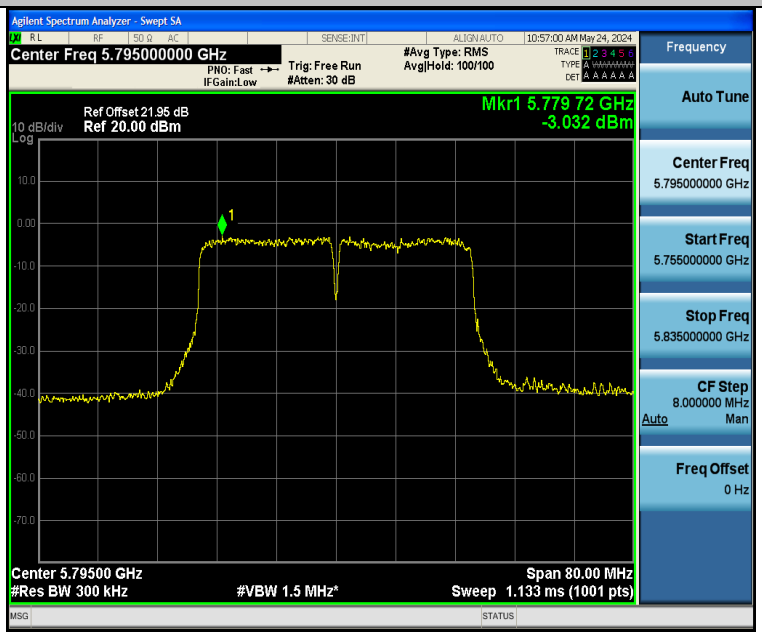

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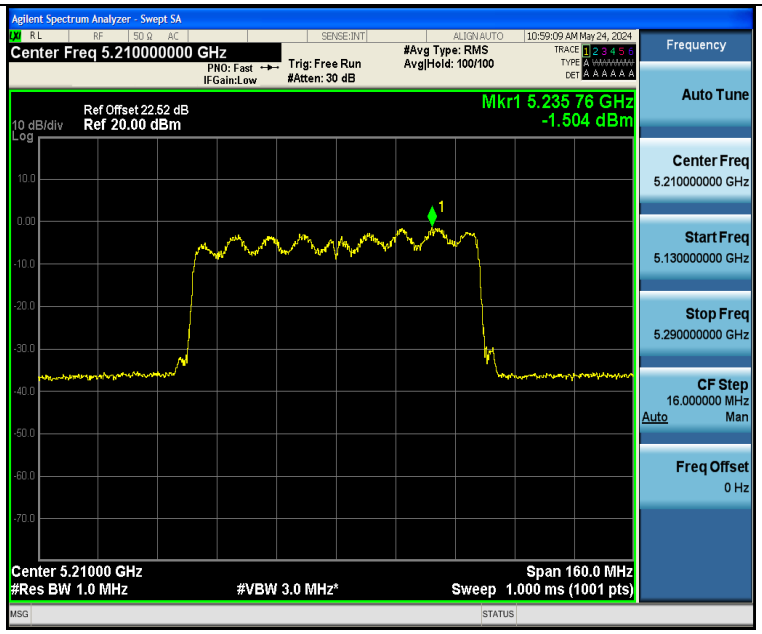

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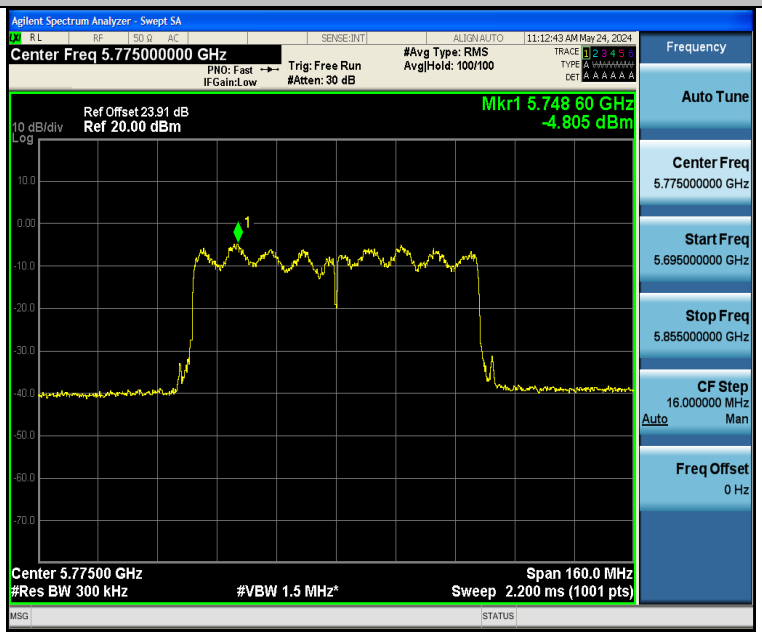


11AC80SISO-Ant1-5775-PASS

9.4 Antenna Requirement

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

9.5 Result

The EUT'S antenna, permanent attached antenna,is PIFA Antenna. The antenna's gain is 3.22 dBi and meets the requirement.

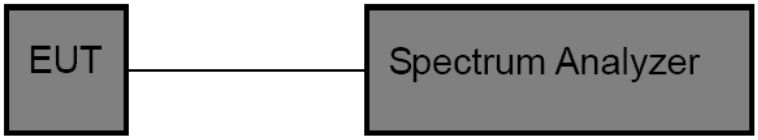
10 Frequency Stability

Test Requirement	:	FCC Part15 E Section 15.407 (g)
Test 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.

10.1 Test Procedure

1. The EUT is installed in an environment test chamber with external power source.
2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT.
3. A sufficient stabilization period at each temperature is used prior to each frequency measurement.
4. When temperature is stabled, measure the frequency stability.
5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.

10.2 Test Setup



10.3 Test Result

TestMode	Antenna	Frequency[MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-14000.00	-2.702703	20	PASS
11A	Ant1	5180	LV	NT	-12000.00	-2.316602	20	PASS
11A	Ant1	5180	HV	NT	-9000.00	-1.737452	20	PASS
11N20SISO	Ant1	5180	NV	NT	8000.00	1.544402	20	PASS
11N20SISO	Ant1	5180	LV	NT	9000.00	1.737452	20	PASS
11N20SISO	Ant1	5180	HV	NT	10000.00	1.930502	20	PASS
11AC20SISO	Ant1	5180	NV	NT	19000.00	3.667954	20	PASS
11AC20SISO	Ant1	5180	LV	NT	20000.00	3.861004	20	PASS
11AC20SISO	Ant1	5180	HV	NT	20000.00	3.861004	20	PASS
11A	Ant1	5200	NV	NT	17000.00	3.269231	20	PASS
11A	Ant1	5200	LV	NT	20000.00	3.846154	20	PASS
11A	Ant1	5200	HV	NT	21000.00	4.038462	20	PASS
11N20SISO	Ant1	5200	NV	NT	32000.00	6.153846	20	PASS

11N20SISO	Ant1	5200	LV	NT	32000.00	6.153846	20	PASS
11N20SISO	Ant1	5200	HV	NT	33000.00	6.346154	20	PASS
11AC20SISO	Ant1	5200	NV	NT	36000.00	6.923077	20	PASS
11AC20SISO	Ant1	5200	LV	NT	37000.00	7.115385	20	PASS
11AC20SISO	Ant1	5200	HV	NT	37000.00	7.115385	20	PASS
11A	Ant1	5240	NV	NT	34000.00	6.488550	20	PASS
11A	Ant1	5240	LV	NT	36000.00	6.870229	20	PASS
11A	Ant1	5240	HV	NT	37000.00	7.061069	20	PASS
11N20SISO	Ant1	5240	NV	NT	44000.00	8.396947	20	PASS
11N20SISO	Ant1	5240	LV	NT	45000.00	8.587786	20	PASS
11N20SISO	Ant1	5240	HV	NT	45000.00	8.587786	20	PASS
11AC20SISO	Ant1	5240	NV	NT	49000.00	9.351145	20	PASS
11AC20SISO	Ant1	5240	LV	NT	49000.00	9.351145	20	PASS
11AC20SISO	Ant1	5240	HV	NT	49000.00	9.351145	20	PASS
11A	Ant1	5745	NV	NT	11000.00	1.914708	20	PASS
11A	Ant1	5745	LV	NT	12000.00	2.088773	20	PASS
11A	Ant1	5745	HV	NT	12000.00	2.088773	20	PASS
11N20SISO	Ant1	5745	NV	NT	14000.00	2.436902	20	PASS
11N20SISO	Ant1	5745	LV	NT	13000.00	2.262837	20	PASS
11N20SISO	Ant1	5745	HV	NT	14000.00	2.436902	20	PASS
11AC20SISO	Ant1	5745	NV	NT	12000.00	2.088773	20	PASS
11AC20SISO	Ant1	5745	LV	NT	12000.00	2.088773	20	PASS
11AC20SISO	Ant1	5745	HV	NT	12000.00	2.088773	20	PASS
11A	Ant1	5785	NV	NT	5000.00	0.864304	20	PASS
11A	Ant1	5785	LV	NT	6000.00	1.037165	20	PASS
11A	Ant1	5785	HV	NT	6000.00	1.037165	20	PASS
11N20SISO	Ant1	5785	NV	NT	10000.00	1.728608	20	PASS
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11AC20SISO	Ant1	5785	NV	NT	11000.00	1.901469	20	PASS
11AC20SISO	Ant1	5785	LV	NT	11000.00	1.901469	20	PASS
11AC20SISO	Ant1	5785	HV	NT	11000.00	1.901469	20	PASS
11A	Ant1	5825	NV	NT	3000.00	0.515021	20	PASS
11A	Ant1	5825	LV	NT	4000.00	0.686695	20	PASS

11A	Ant1	5825	HV	NT	5000.00	0.858369	20	PASS
11N20SISO	Ant1	5825	NV	NT	6000.00	1.030043	20	PASS
11N20SISO	Ant1	5825	LV	NT	6000.00	1.030043	20	PASS
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11AC20SISO	Ant1	5825	NV	NT	6000.00	1.030043	20	PASS
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11AC20SISO	Ant1	5825	HV	NT	6000.00	1.030043	20	PASS
11N40SISO	Ant1	5190	NV	NT	15000.00	2.890173	20	PASS
11N40SISO	Ant1	5190	LV	NT	17000.00	3.275530	20	PASS
11N40SISO	Ant1	5190	HV	NT	20000.00	3.853565	20	PASS
11AC40SISO	Ant1	5190	NV	NT	33000.00	6.358382	20	PASS
11AC40SISO	Ant1	5190	LV	NT	33000.00	6.358382	20	PASS
11AC40SISO	Ant1	5190	HV	NT	34000.00	6.551060	20	PASS
11N40SISO	Ant1	5230	NV	NT	27000.00	5.162524	20	PASS
11N40SISO	Ant1	5230	LV	NT	29000.00	5.544933	20	PASS
11N40SISO	Ant1	5230	HV	NT	31000.00	5.927342	20	PASS
11AC40SISO	Ant1	5230	NV	NT	38000.00	7.265774	20	PASS
11AC40SISO	Ant1	5230	LV	NT	39000.00	7.456979	20	PASS
11AC40SISO	Ant1	5230	HV	NT	39000.00	7.456979	20	PASS
11N40SISO	Ant1	5755	NV	NT	11000.00	1.911381	20	PASS
11N40SISO	Ant1	5755	LV	NT	11000.00	1.911381	20	PASS
11N40SISO	Ant1	5755	HV	NT	11000.00	1.911381	20	PASS
11AC40SISO	Ant1	5755	NV	NT	9000.00	1.563858	20	PASS
11AC40SISO	Ant1	5755	LV	NT	9000.00	1.563858	20	PASS
11AC40SISO	Ant1	5755	HV	NT	9000.00	1.563858	20	PASS
11N40SISO	Ant1	5795	NV	NT	1000.00	0.172563	20	PASS
11N40SISO	Ant1	5795	LV	NT	1000.00	0.172563	20	PASS
11N40SISO	Ant1	5795	HV	NT	2000.00	0.345125	20	PASS
11AC40SISO	Ant1	5795	NV	NT	3000.00	0.517688	20	PASS

11AC40SISO	Ant1	5795	LV	NT	3000.00	0.517688	20	PASS
11AC40SISO	Ant1	5795	HV	NT	4000.00	0.690250	20	PASS
11AC80SISO	Ant1	5210	NV	NT	28000.00	5.374280	20	PASS
11AC80SISO	Ant1	5210	LV	NT	28000.00	5.374280	20	PASS
11AC80SISO	Ant1	5210	HV	NT	27000.00	5.182342	20	PASS
11AC80SISO	Ant1	5775	NV	NT	12000.00	2.077922	20	PASS
11AC80SISO	Ant1	5775	LV	NT	11000.00	1.904762	20	PASS
11AC80SISO	Ant1	5775	HV	NT	11000.00	1.904762	20	PASS

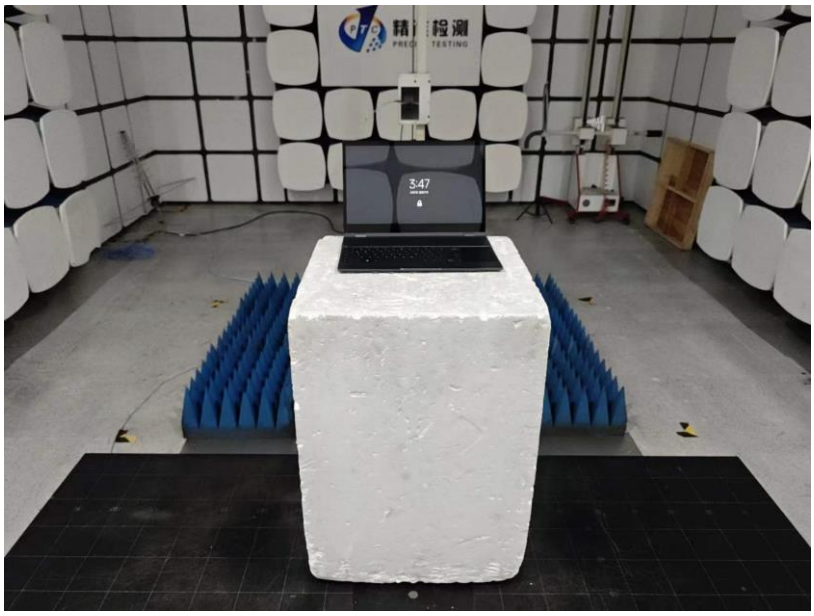
11 Test Setup

Conducted Emissions

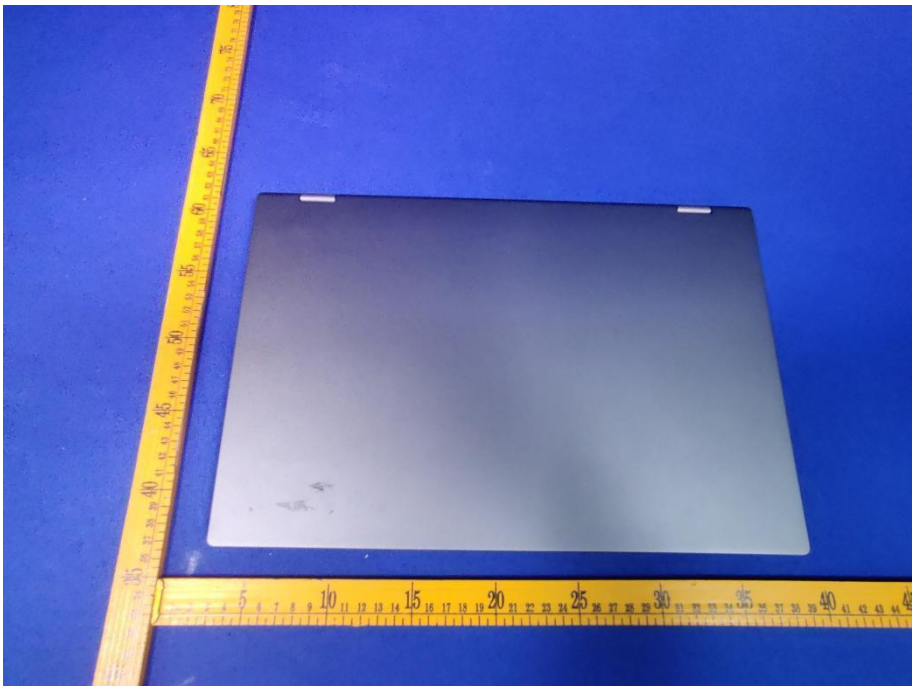
Radiated Spurious Emissions

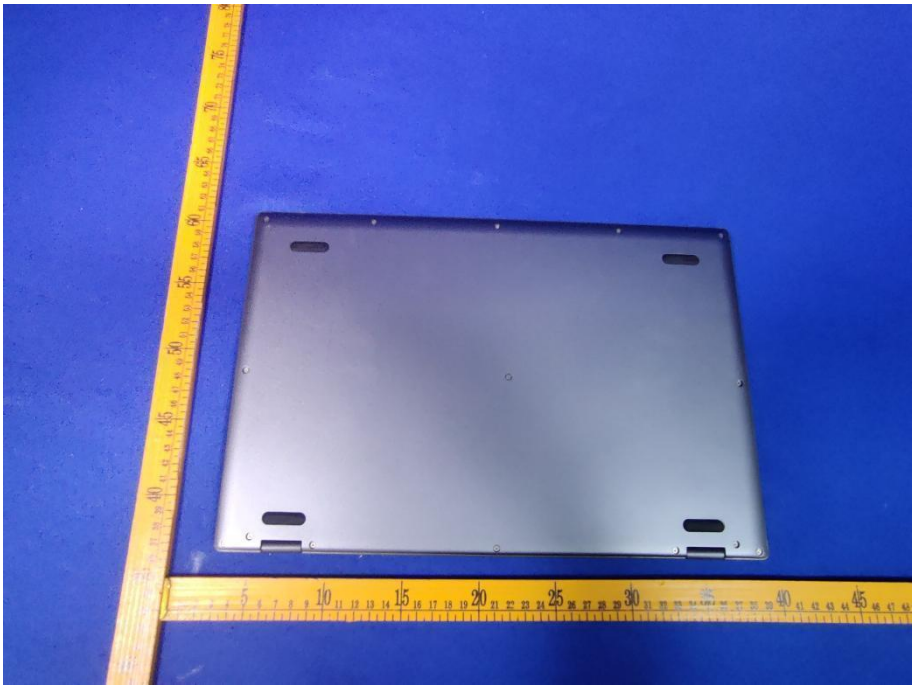
Test Frequency From Below 1GHz

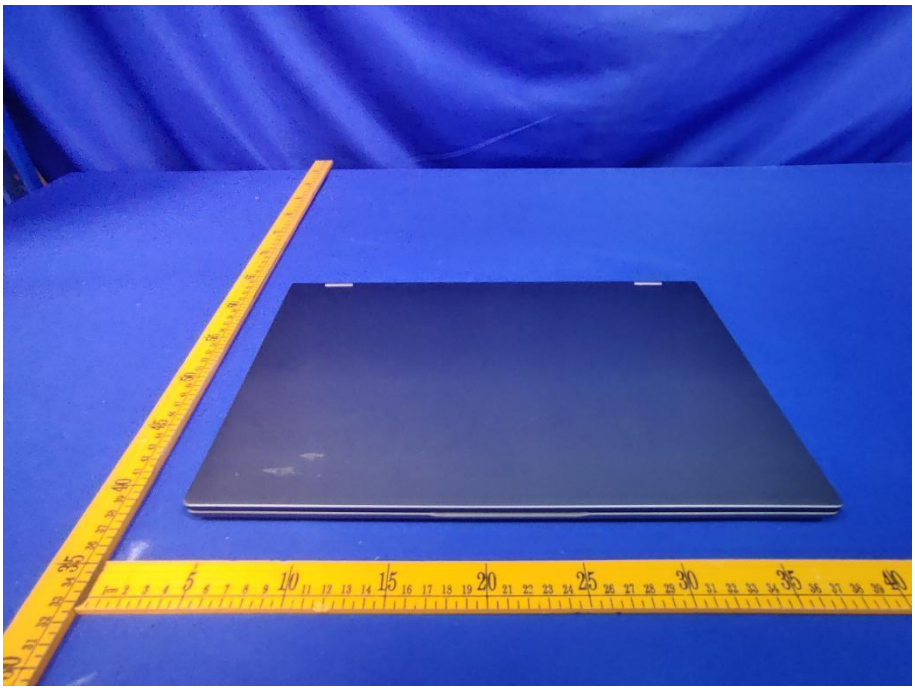
Test frequency from Above 1GHz

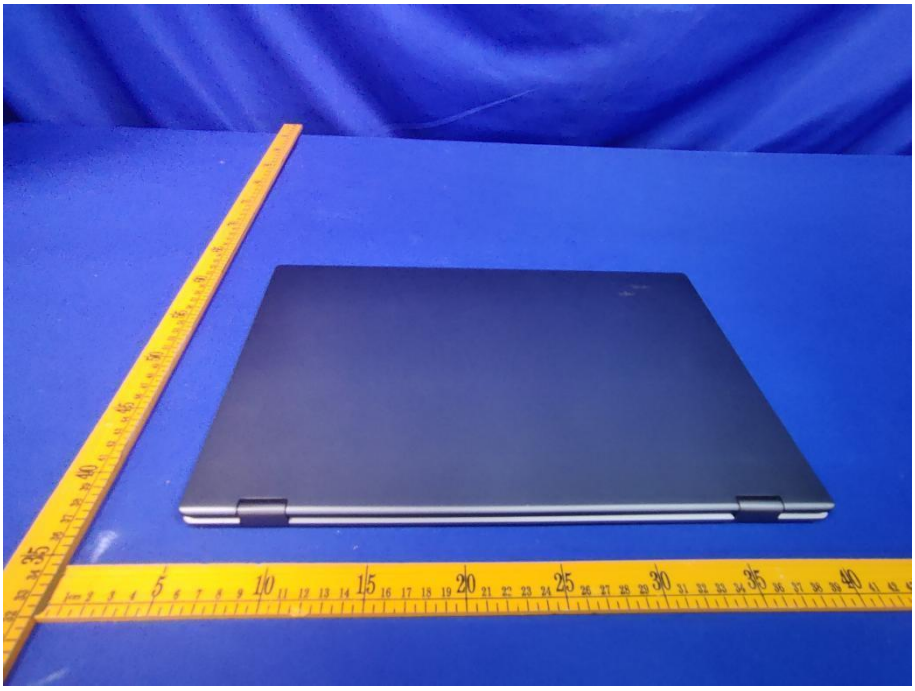


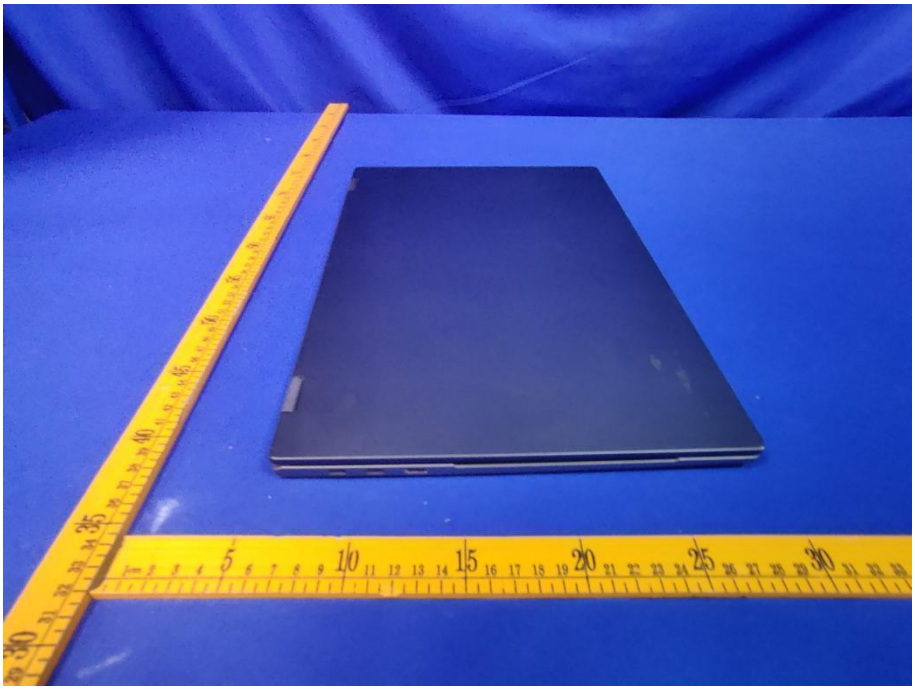
12 EUT PHOTOS

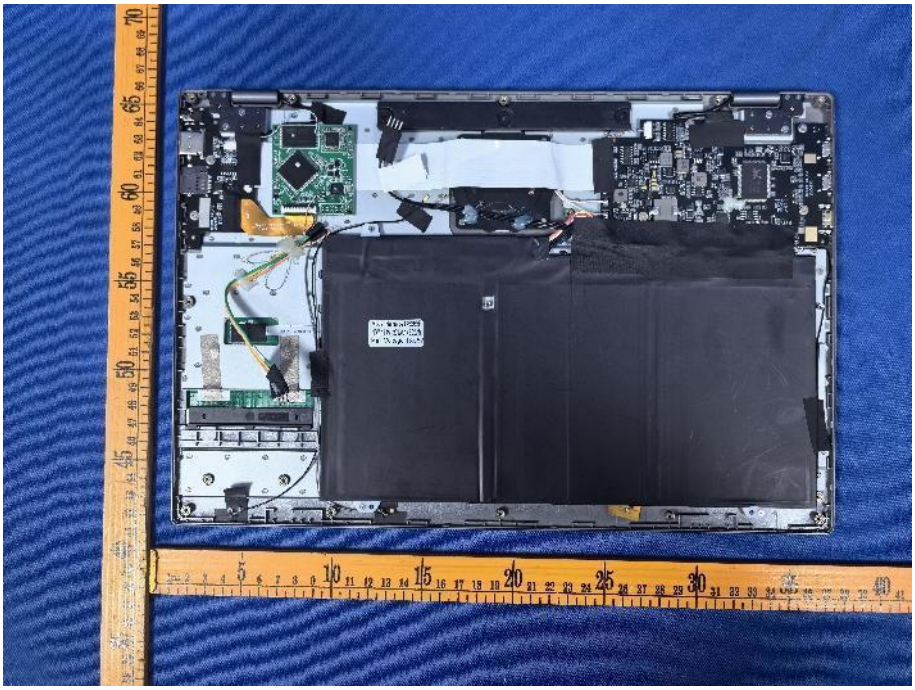


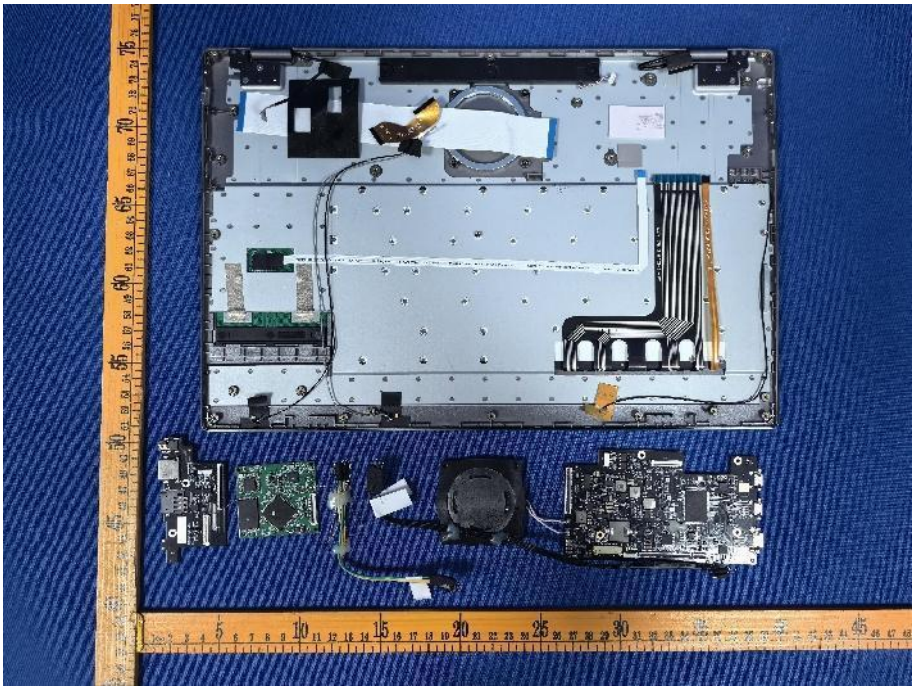


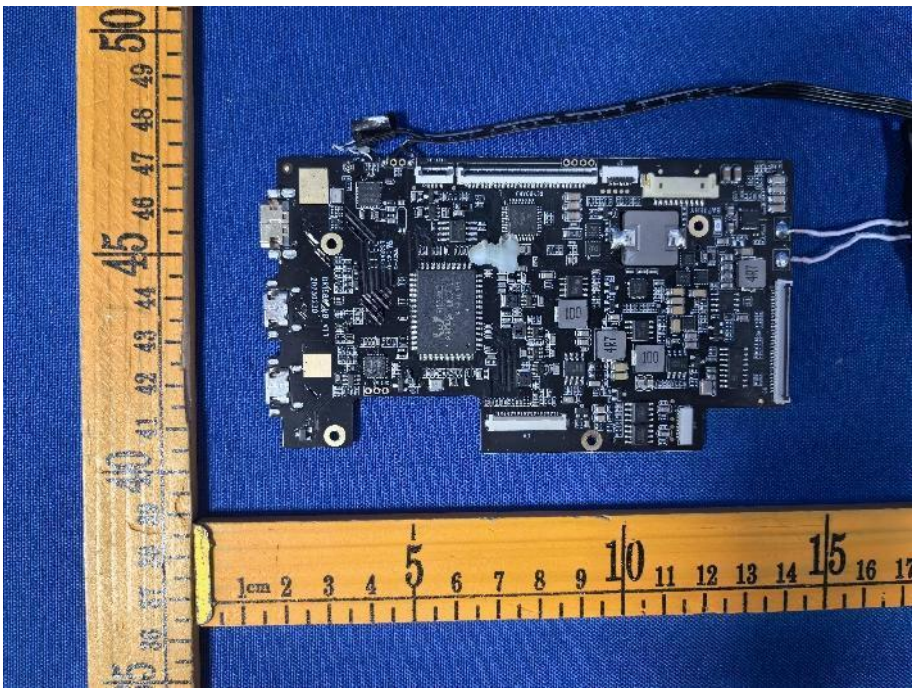


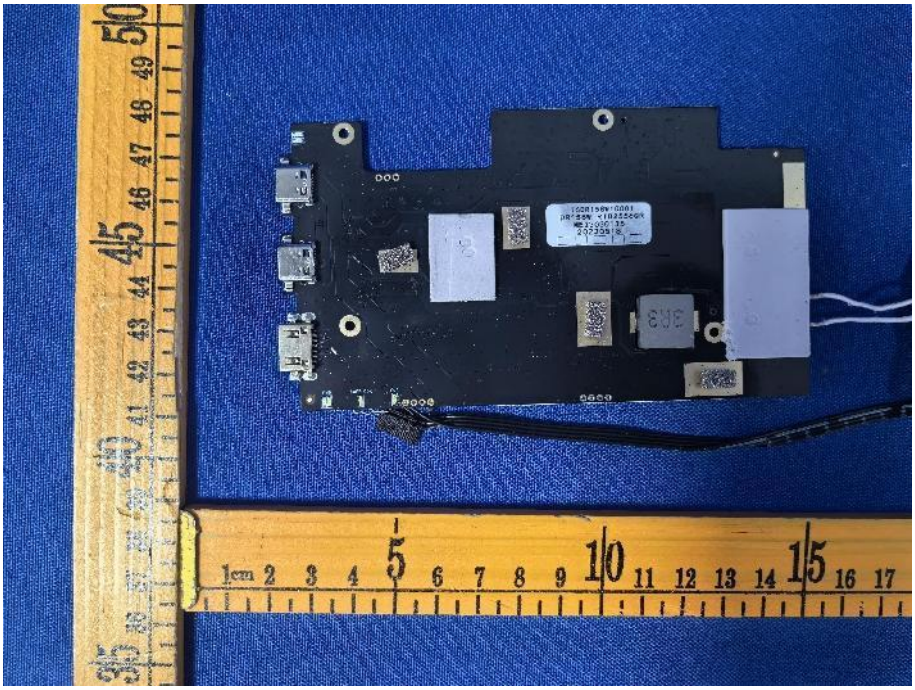


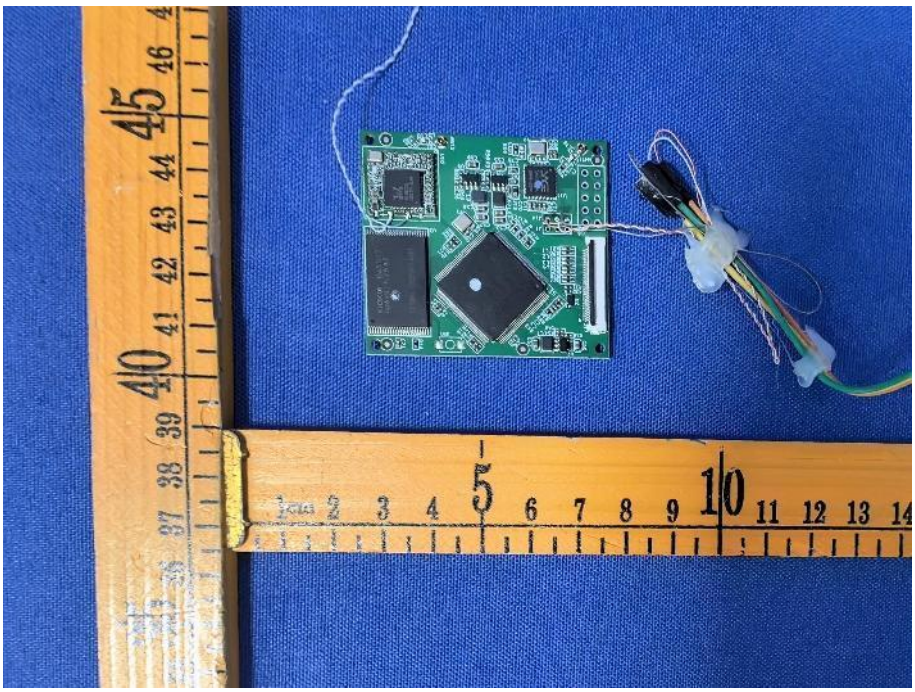


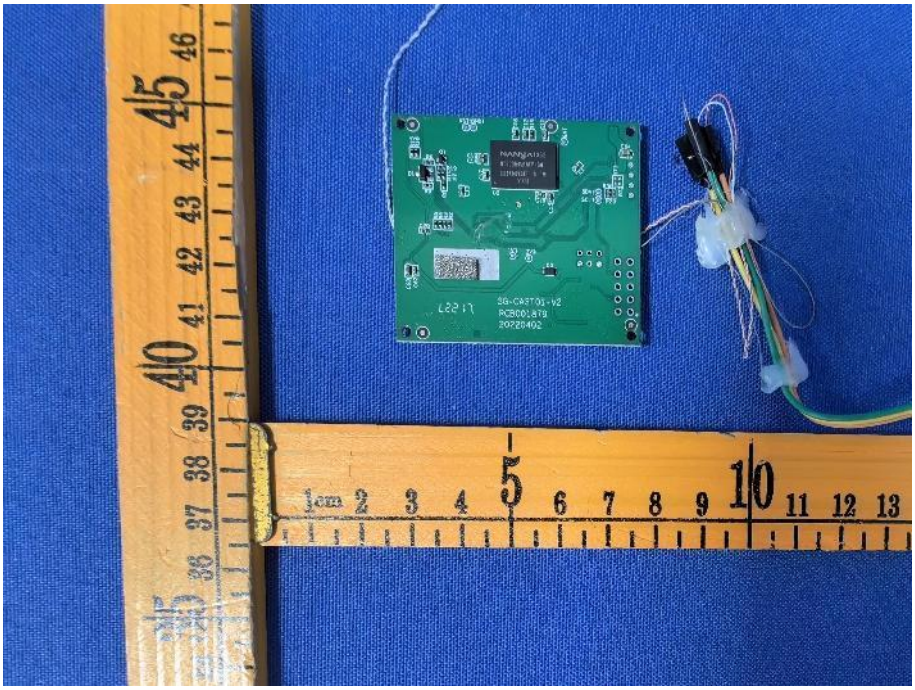


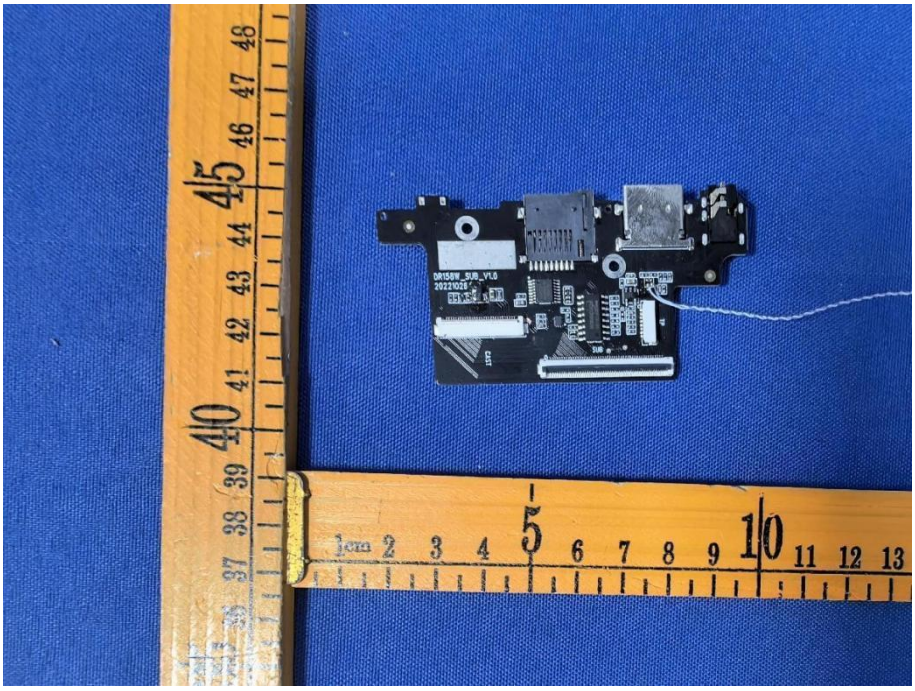


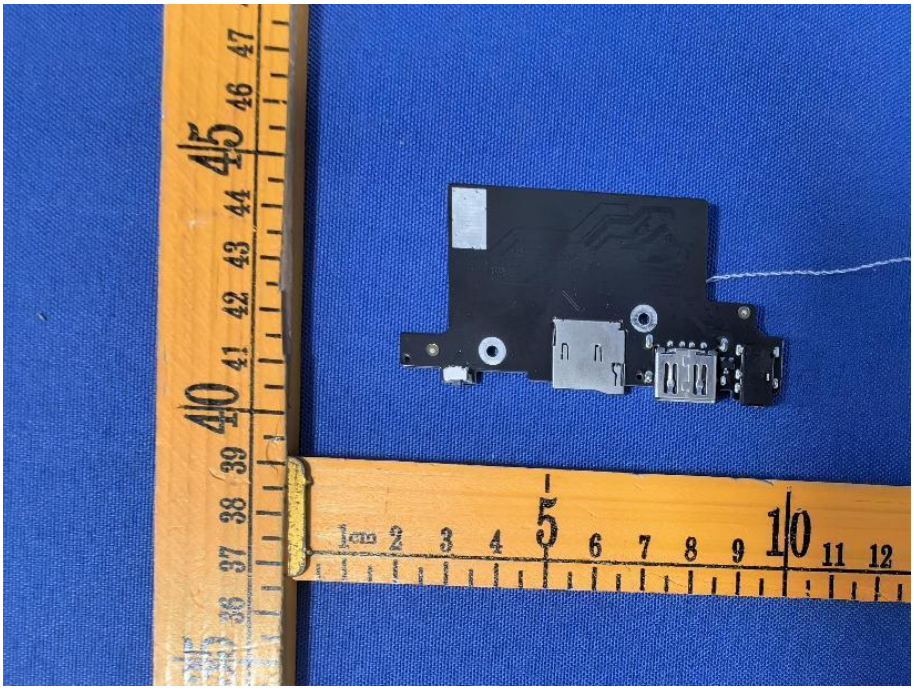


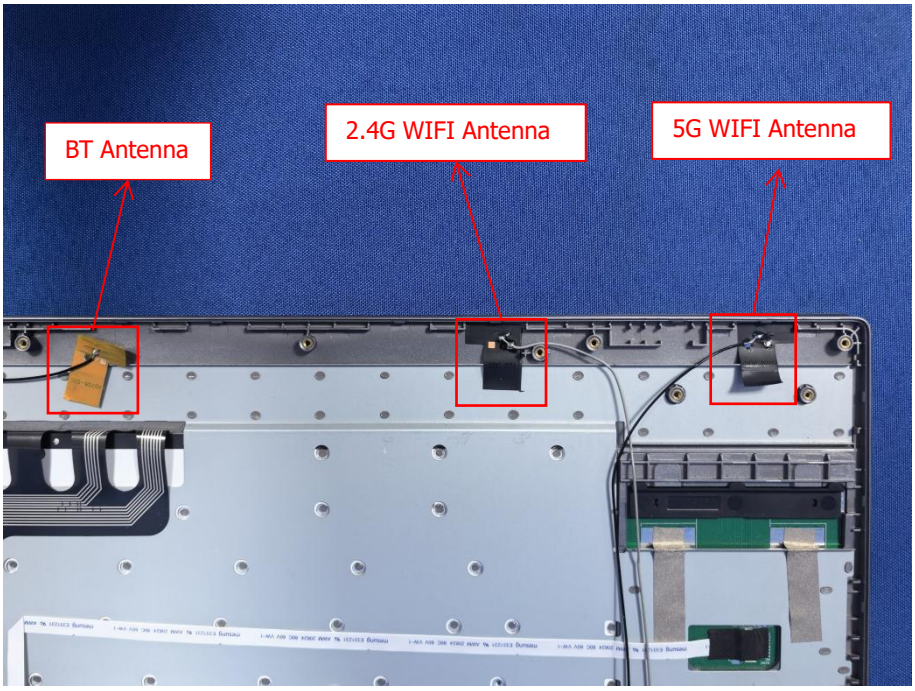











BT Antenna
2.4G WIFI Antenna
5G WIFI Antenna

********THE END REPORT********