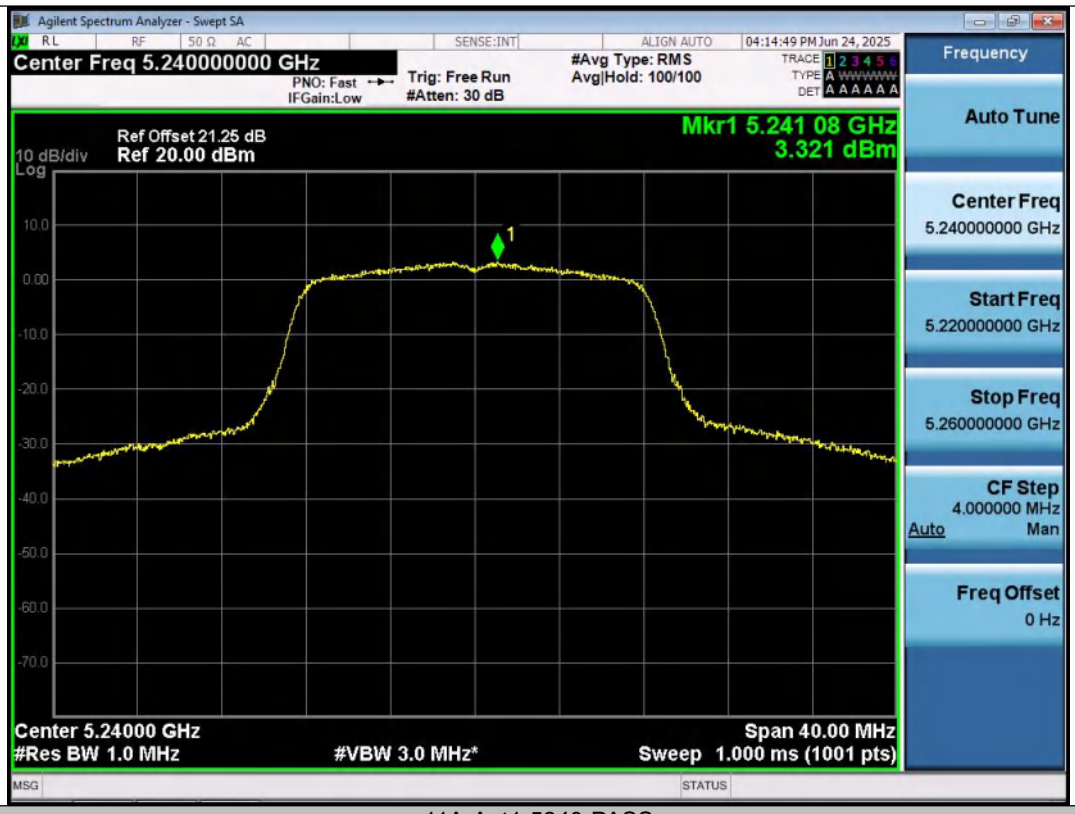

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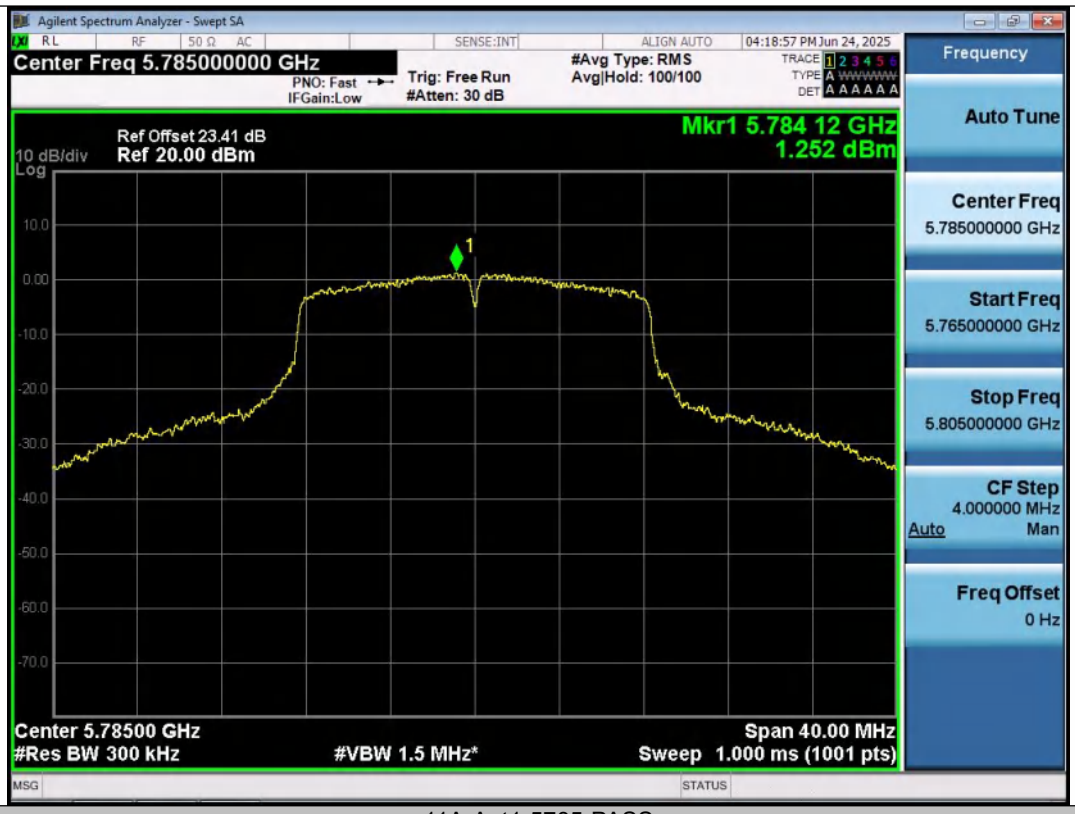
11A-Ant2-5240-PASS

11A-Ant1-5745-PASS

11A-Ant2-5745-PASS



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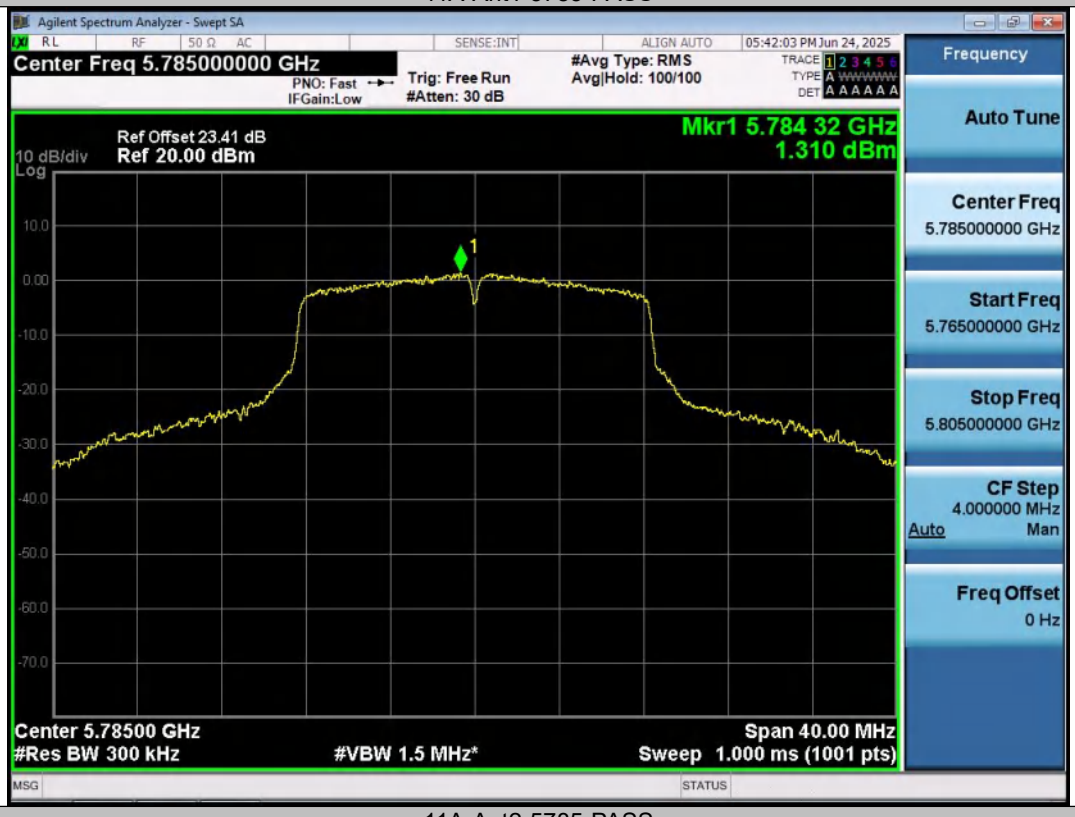

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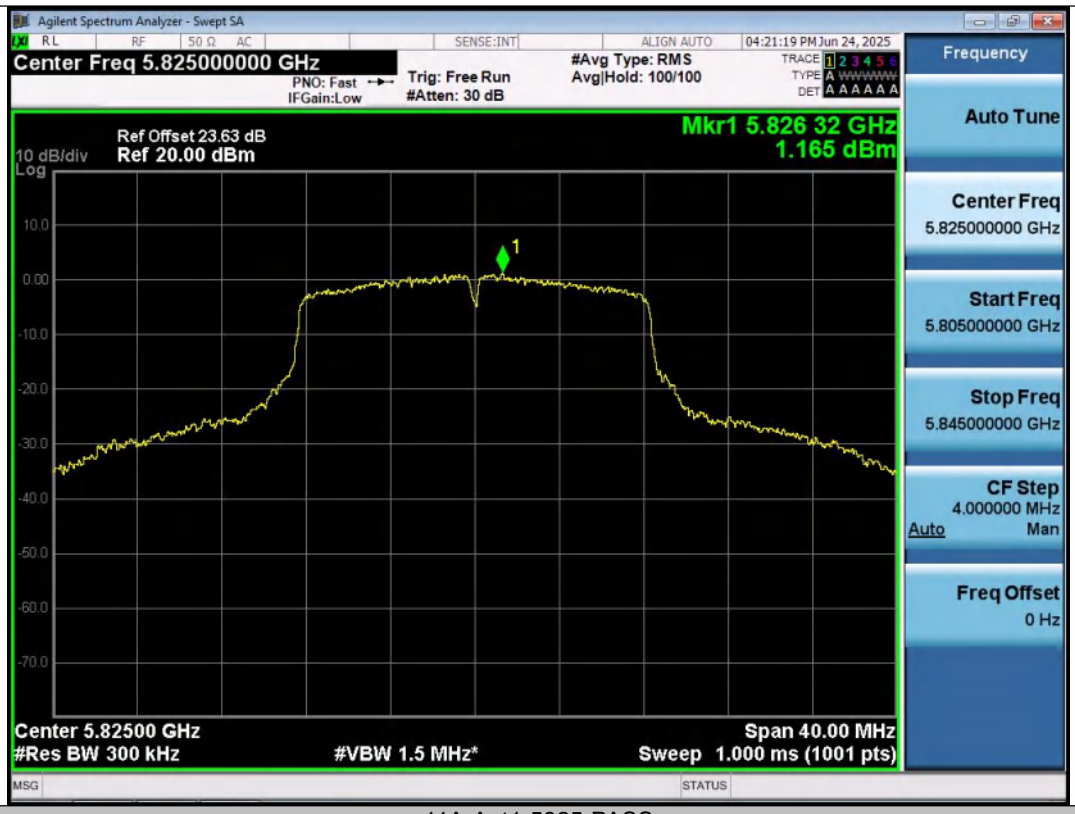

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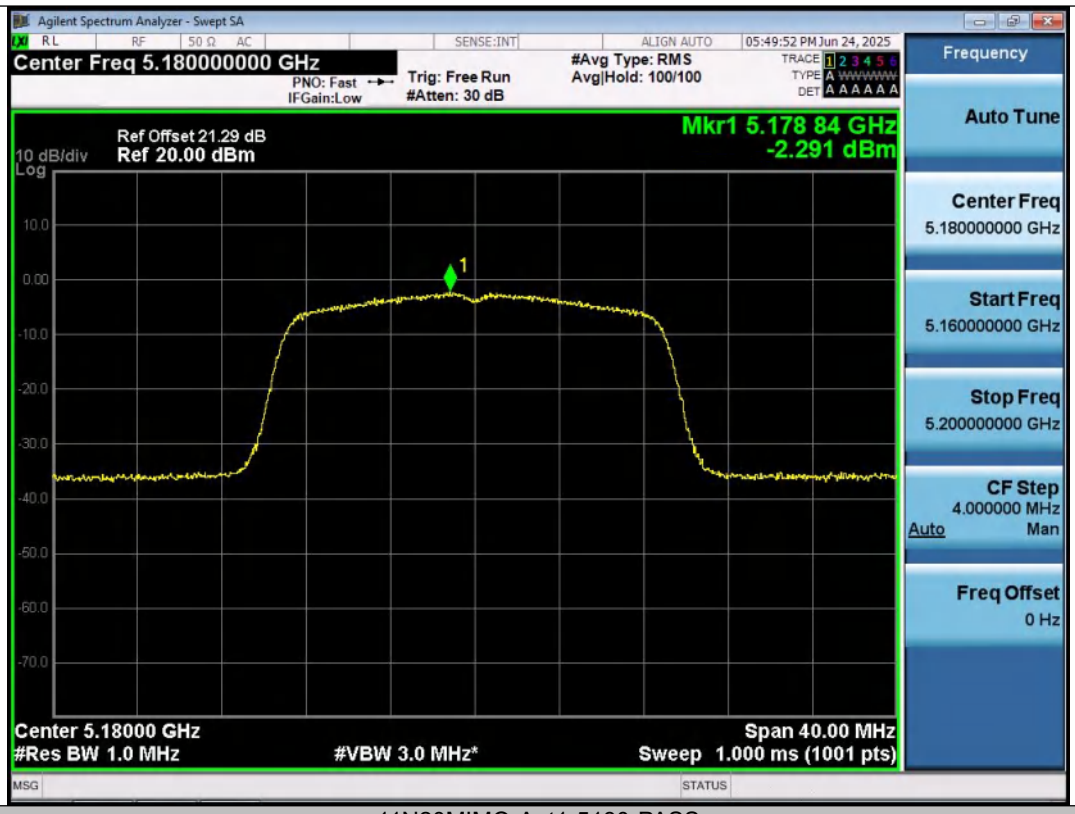
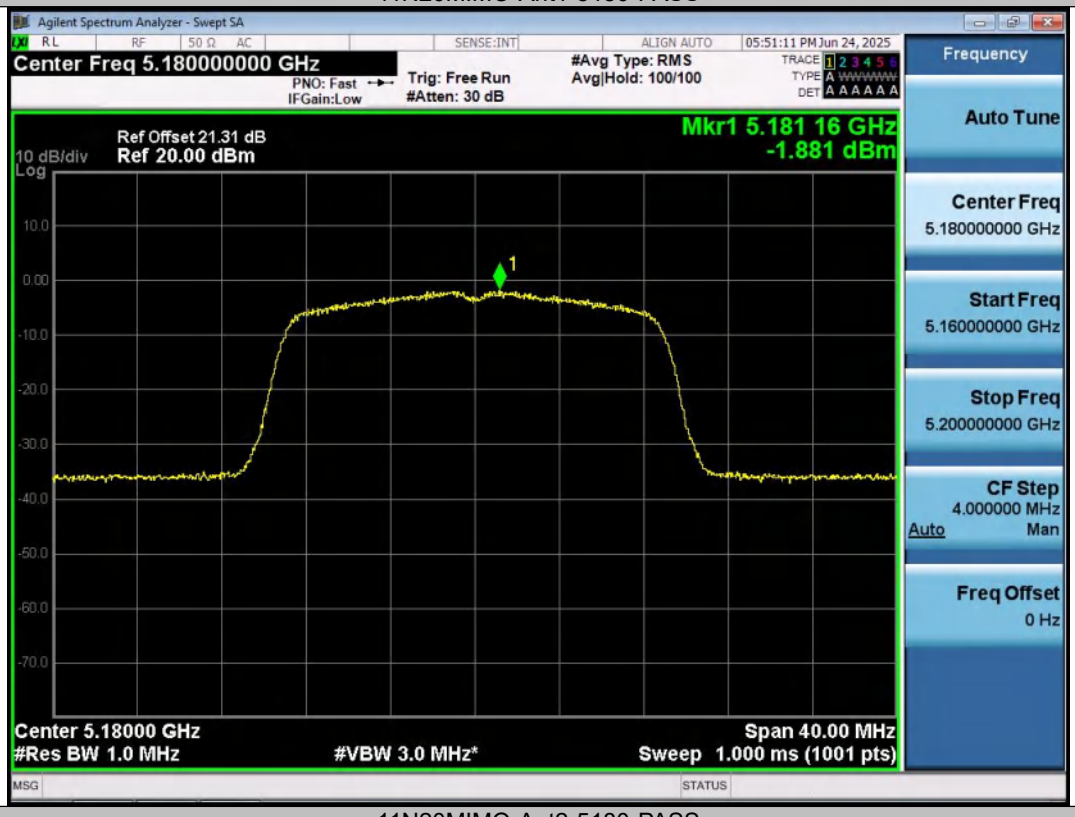
11A-Ant2-5825-PASS



11N20MIMO-Ant1-5180-PASS



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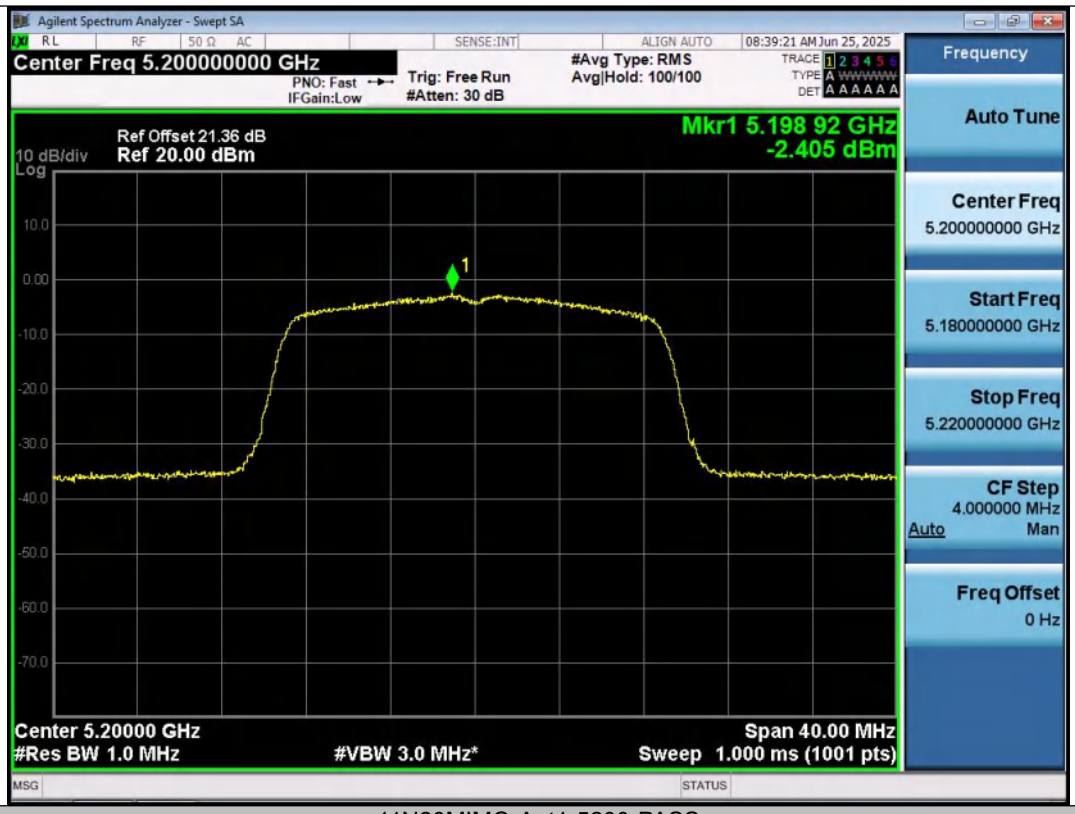

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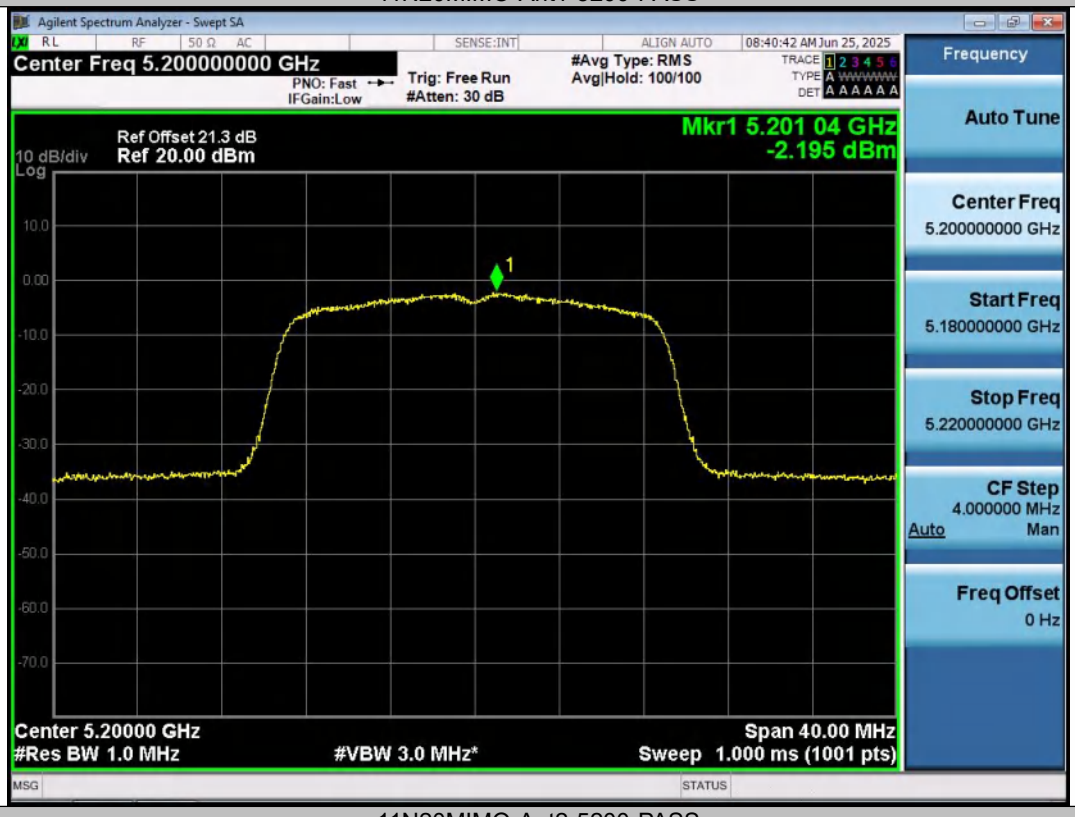

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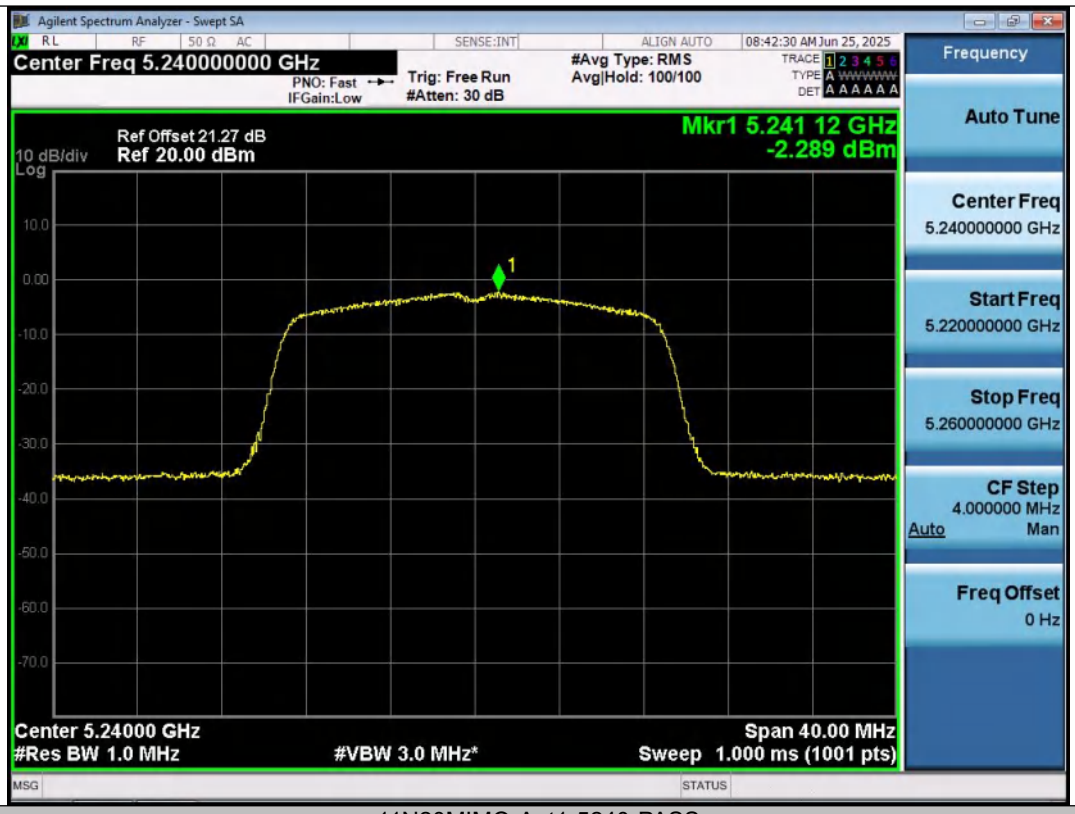

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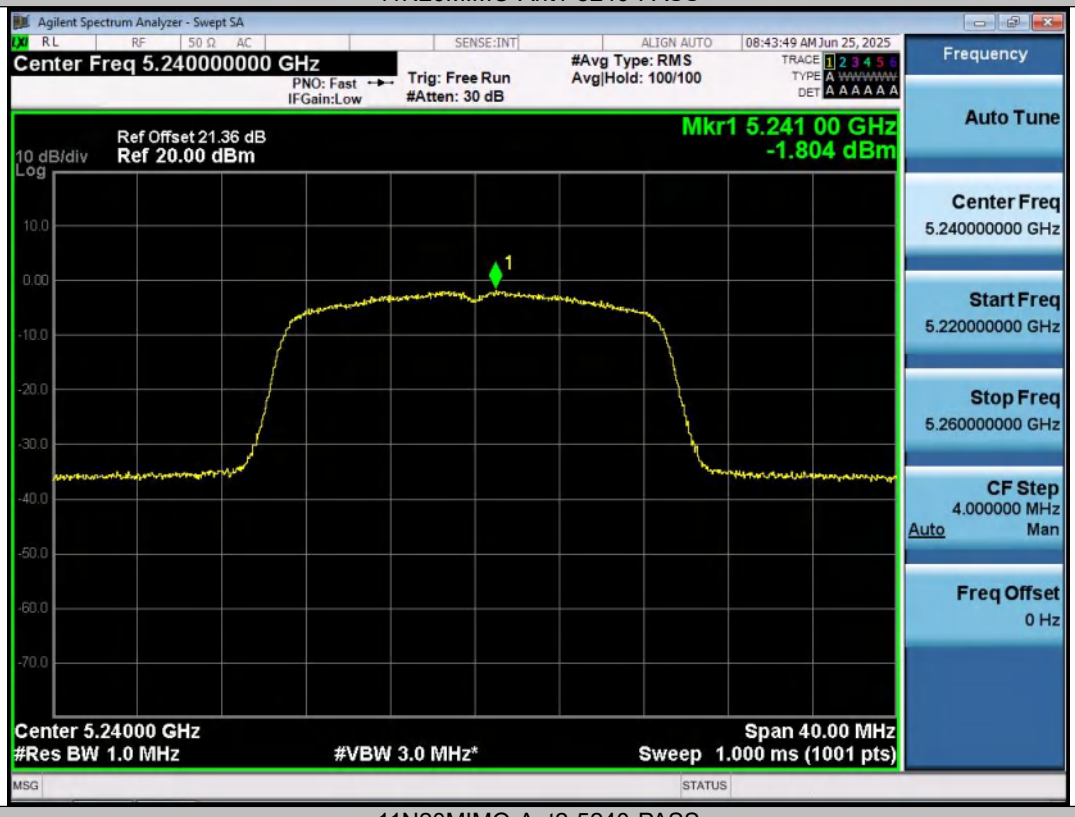

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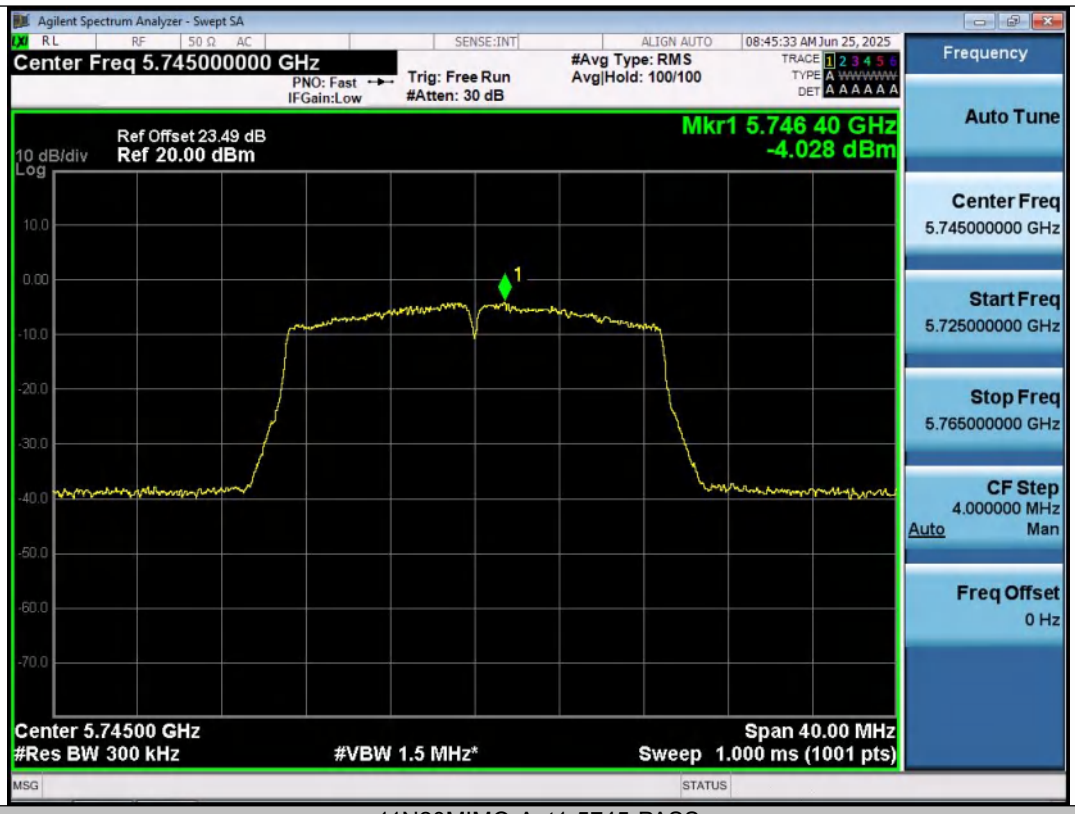

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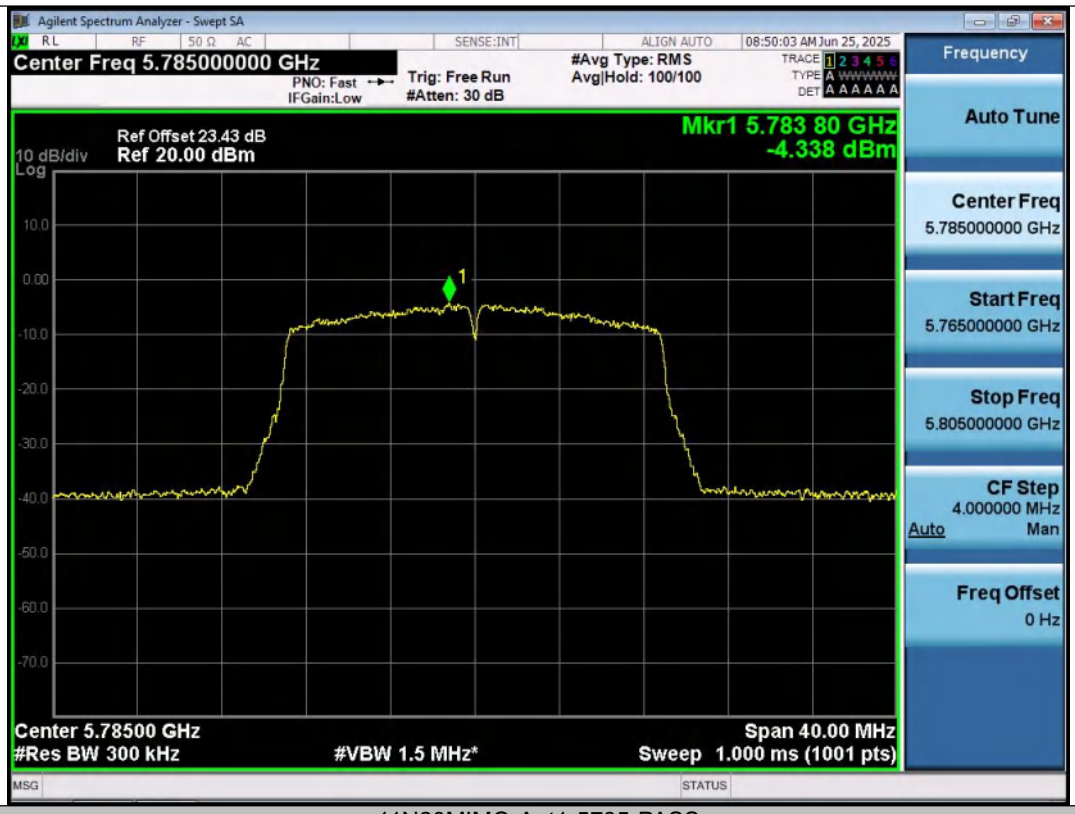

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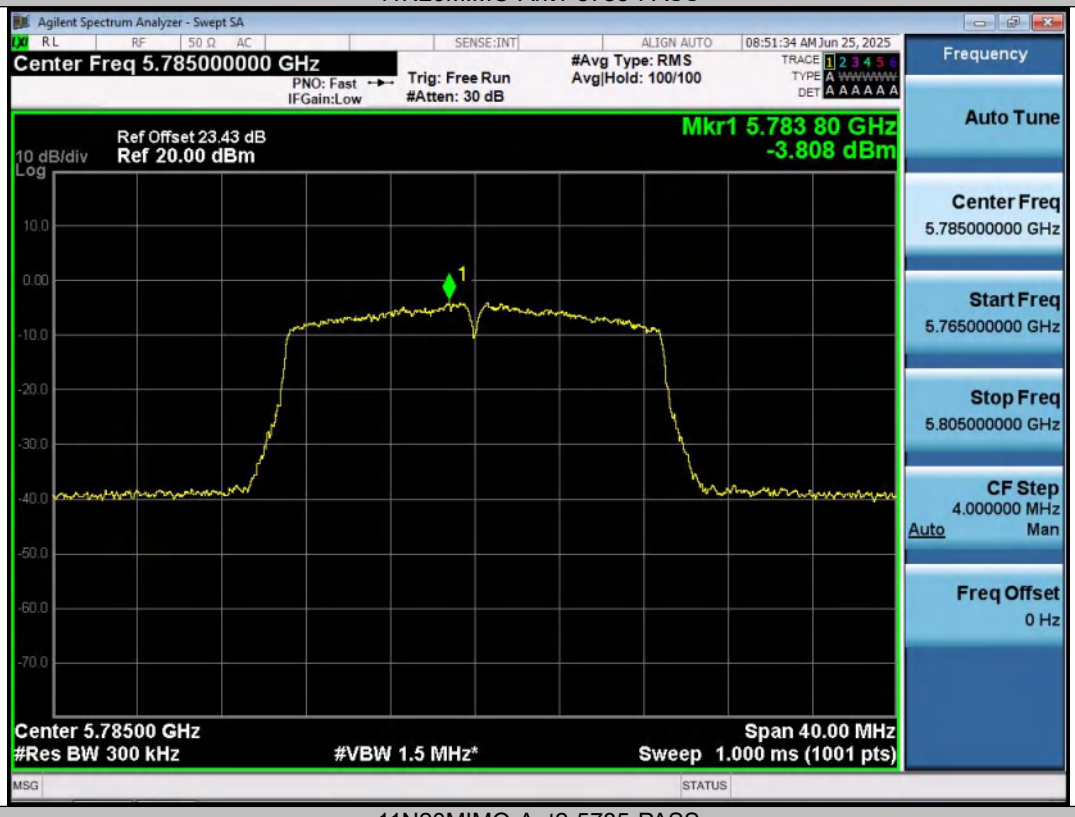

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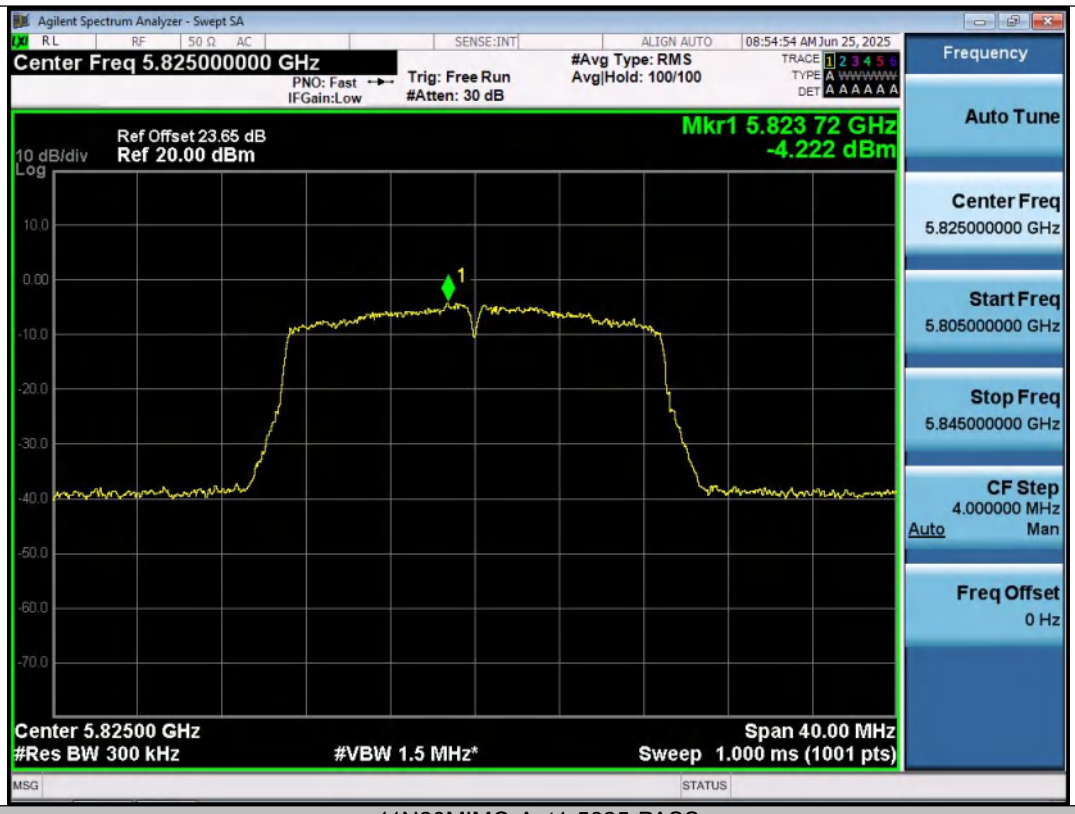

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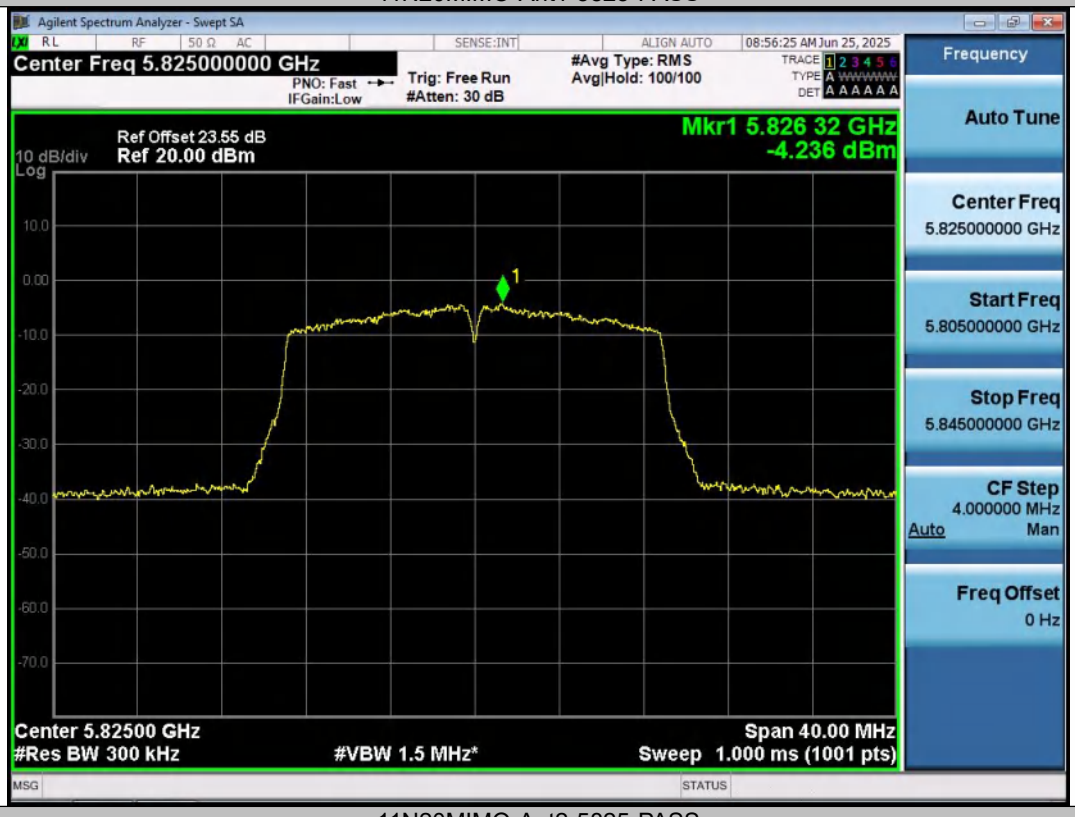


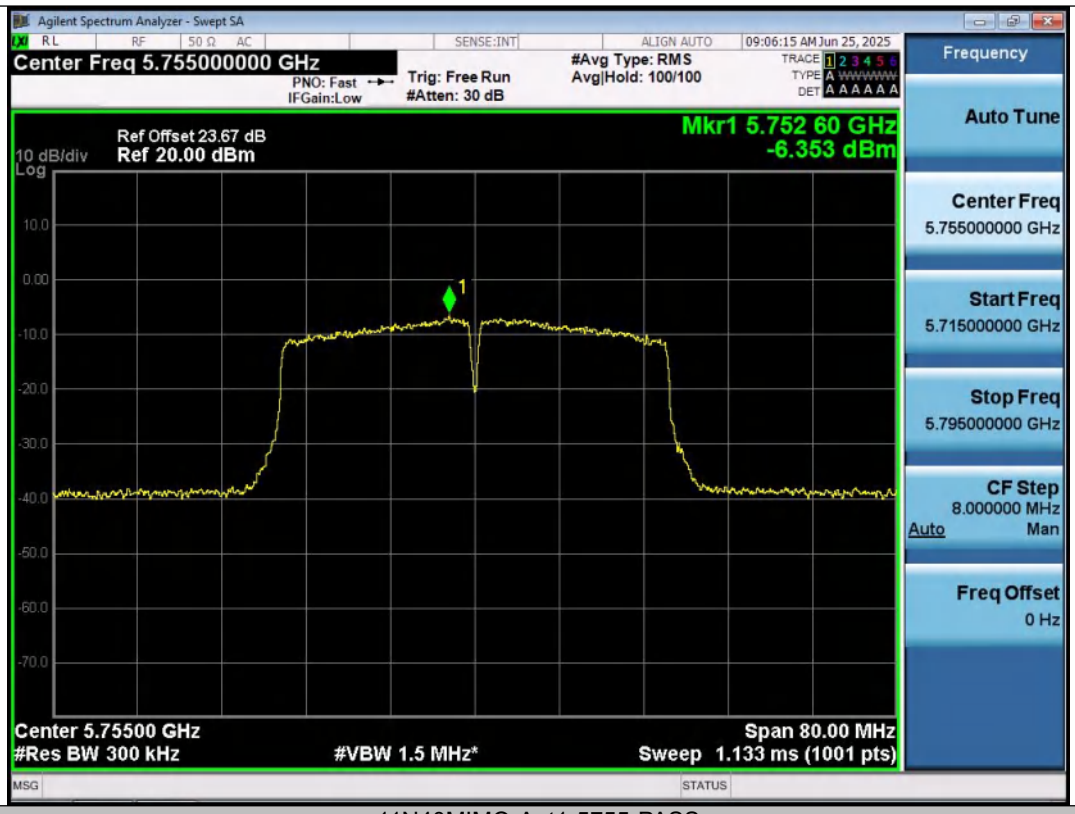
11N20MIMO-Ant2-5825-PASS

11N40MIMO-Ant1-5190-PASS

11N40MIMO-Ant2-5190-PASS

11N40MIMO-Ant1-5230-PASS

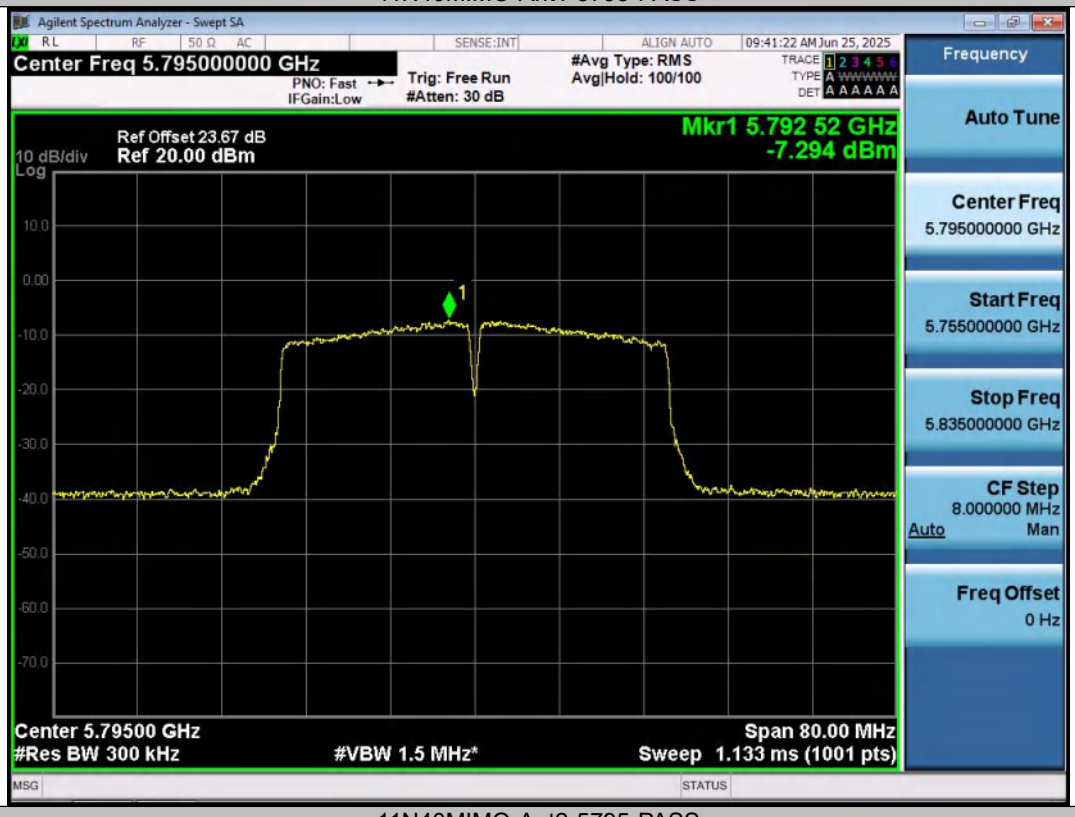
11N40MIMO-Ant2-5230-PASS



11N40MIMO-Ant1-5755-PASS

11N40MIMO-Ant2-5755-PASS

11N40MIMO-Ant1-5795-PASS



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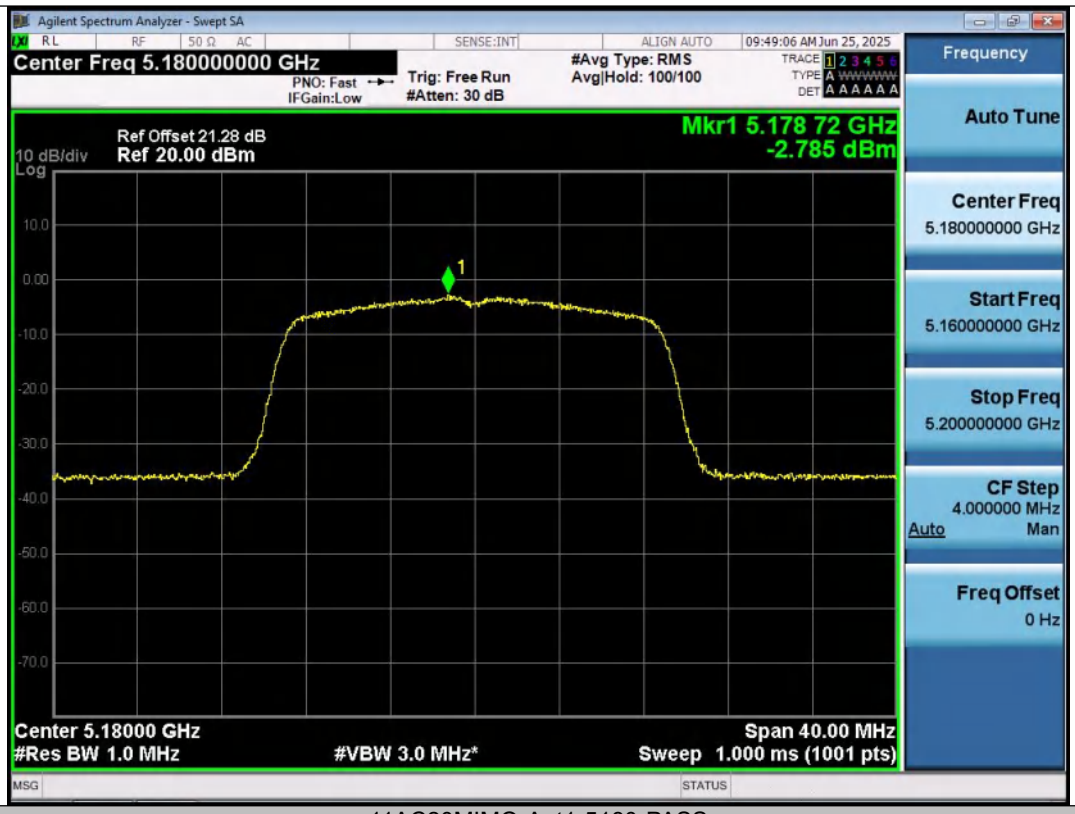

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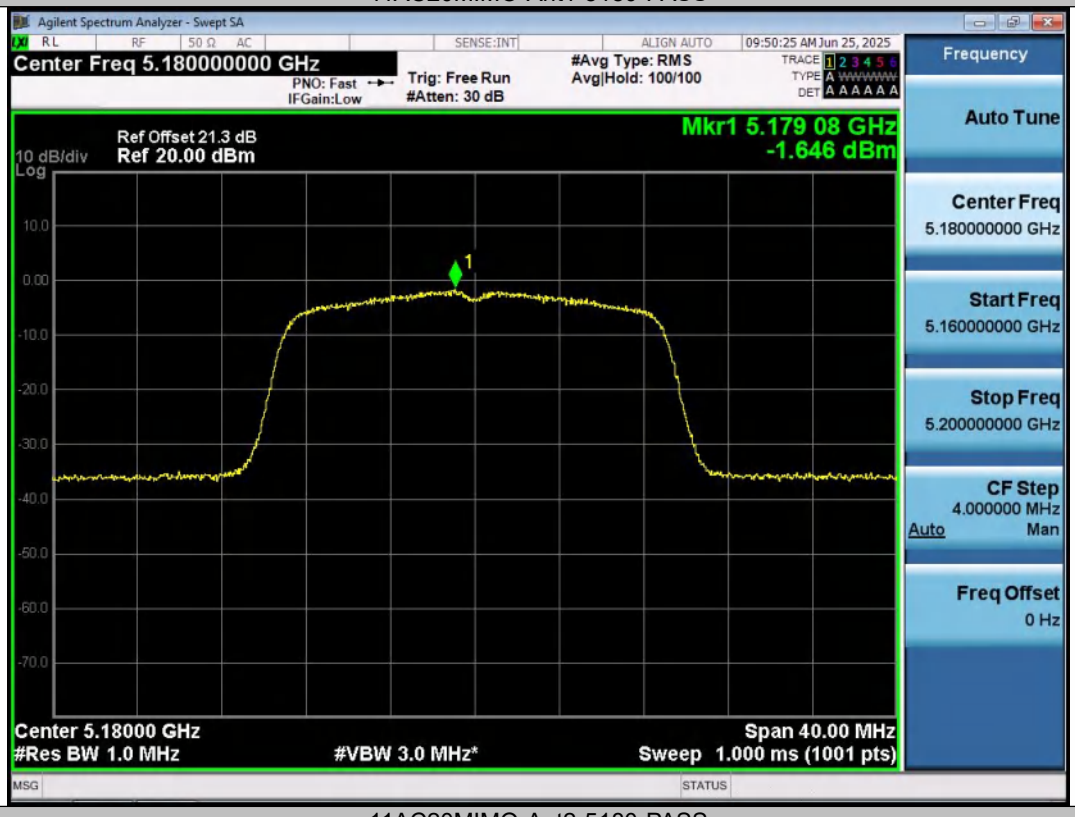

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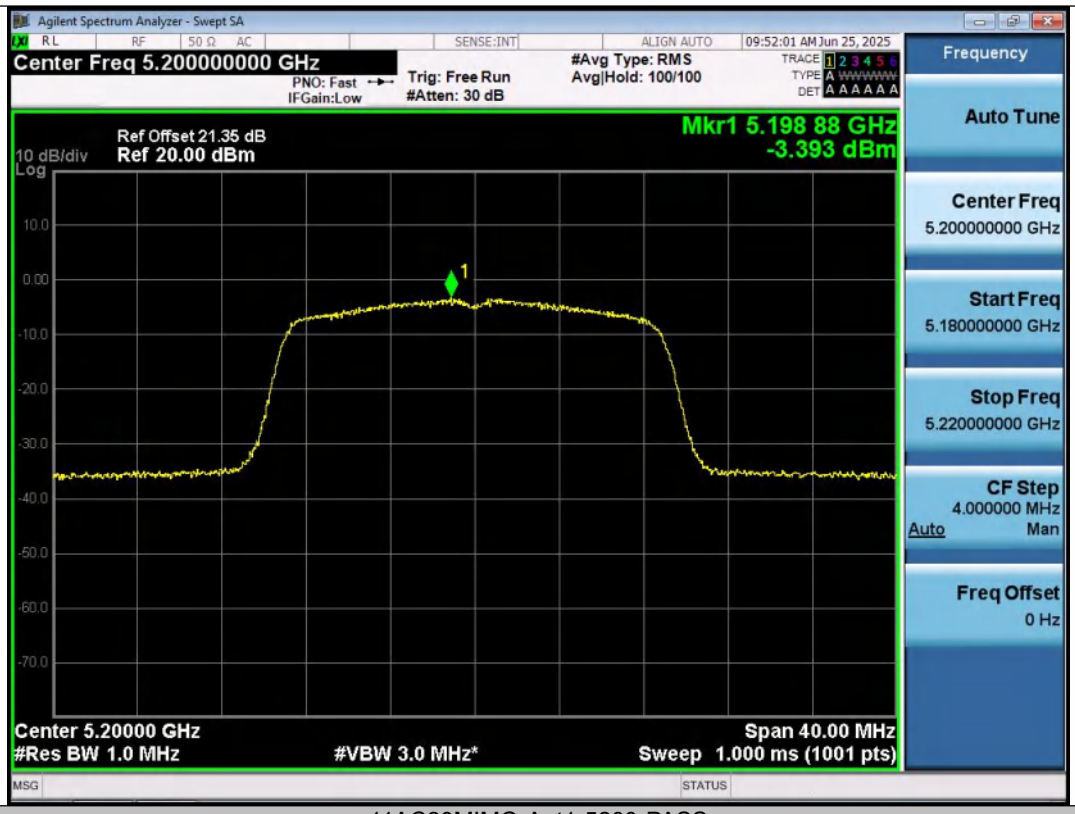
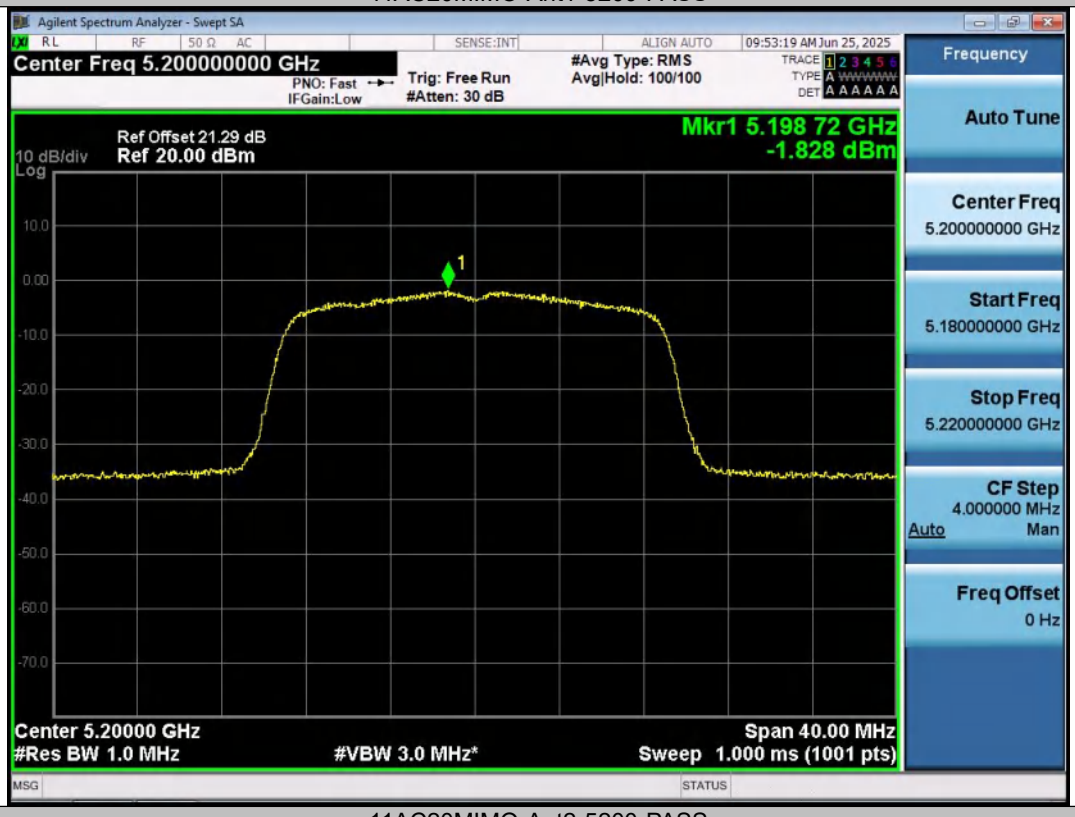


11AC20MIMO-Ant1-5200-PASS



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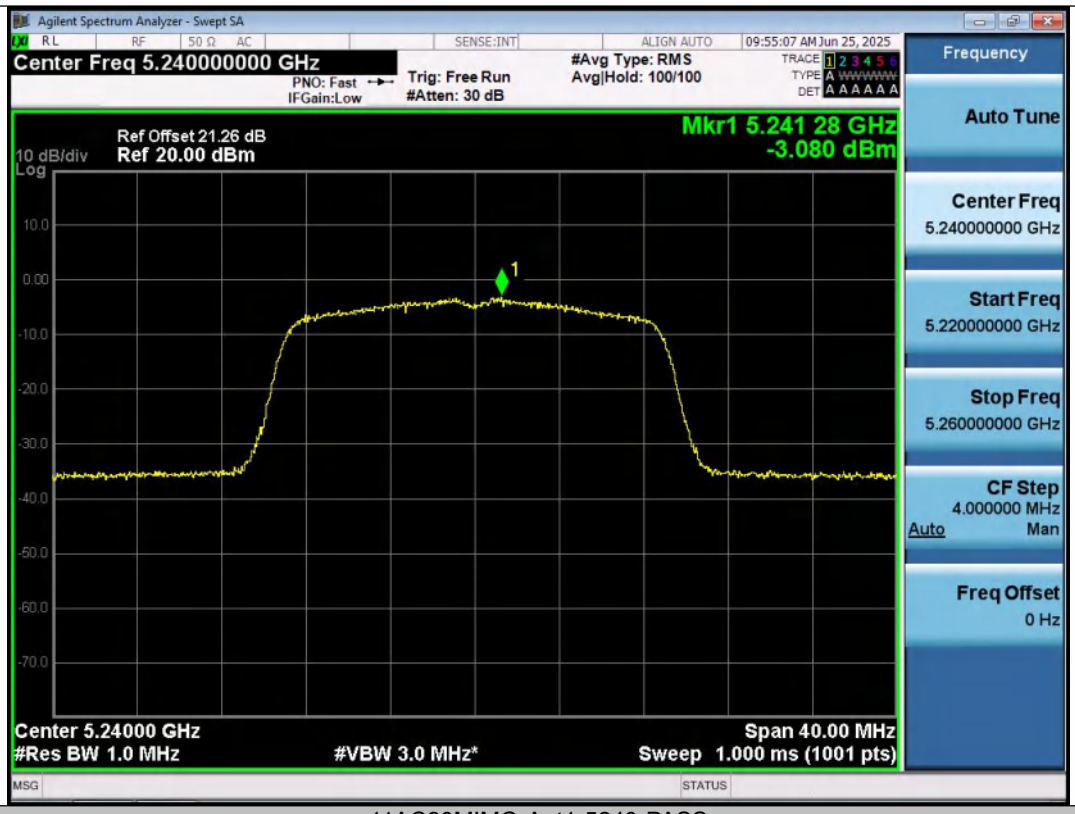
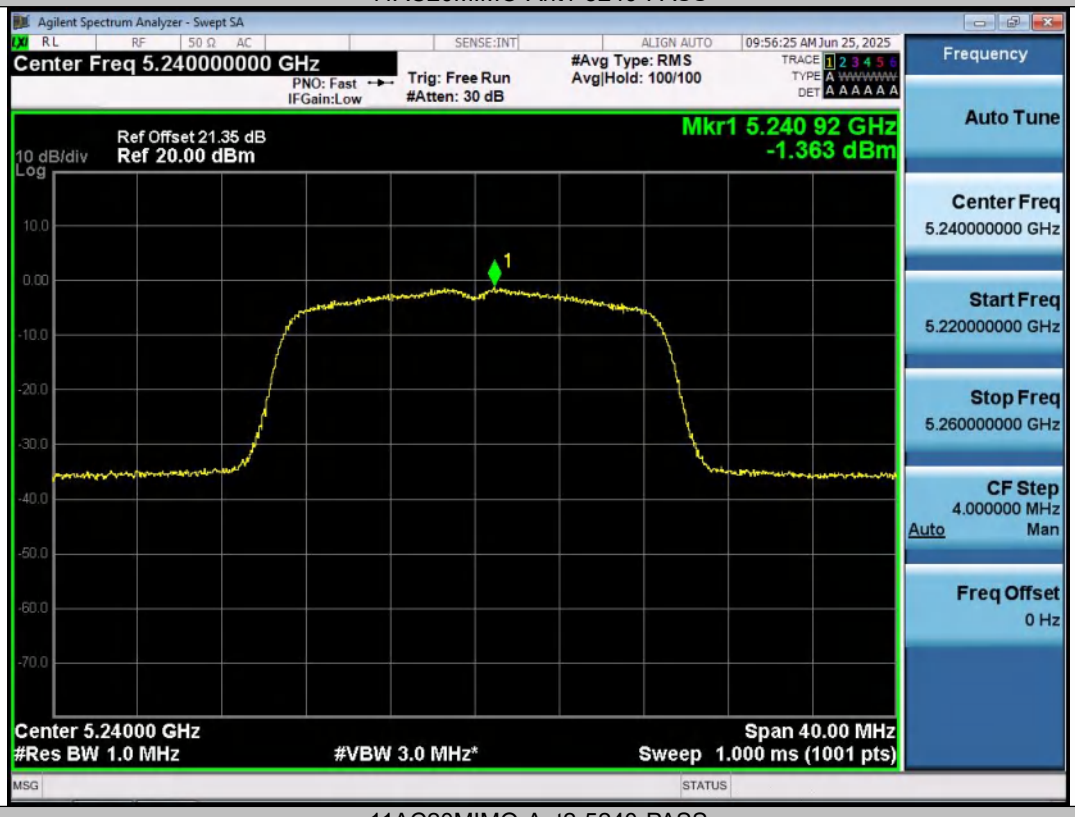


11AC20MIMO-Ant1-5240-PASS



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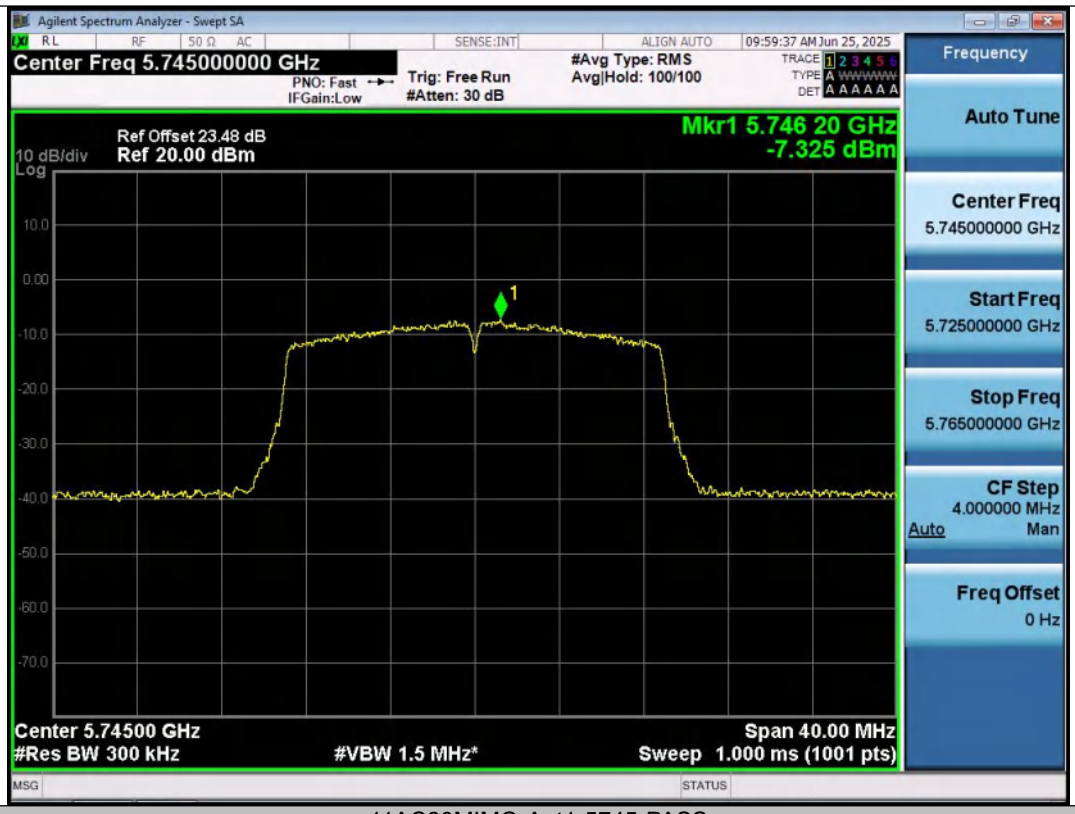

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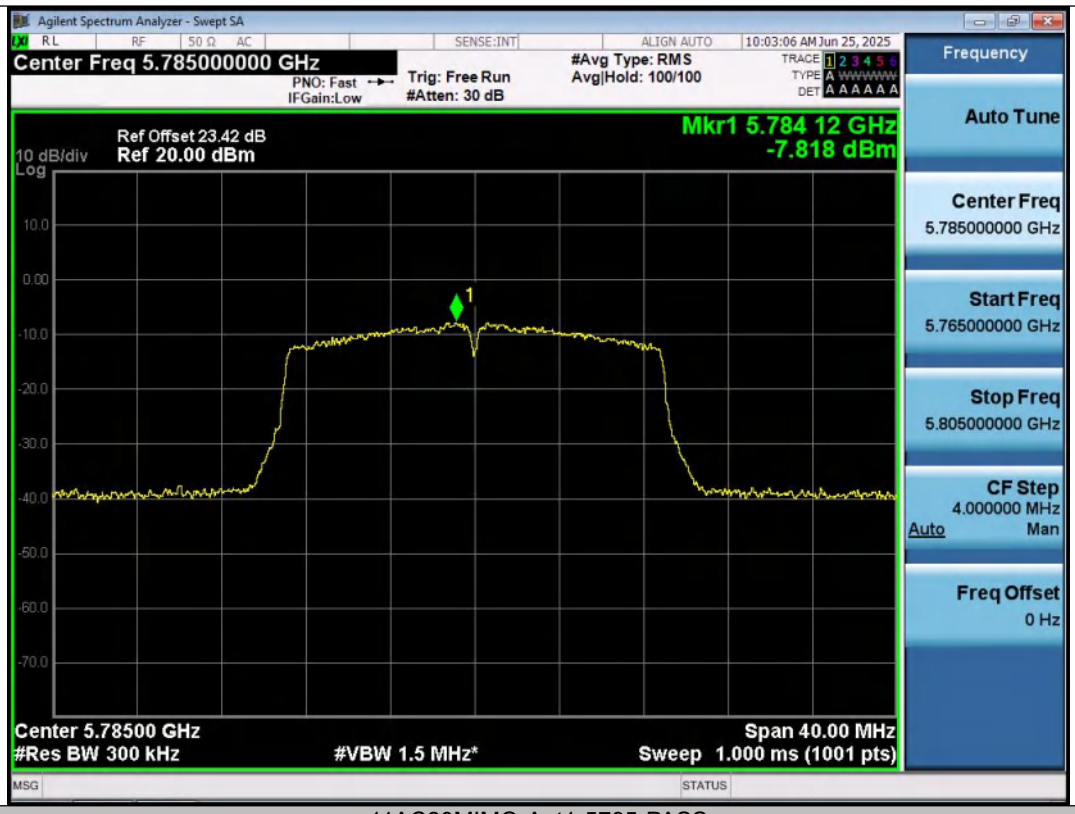
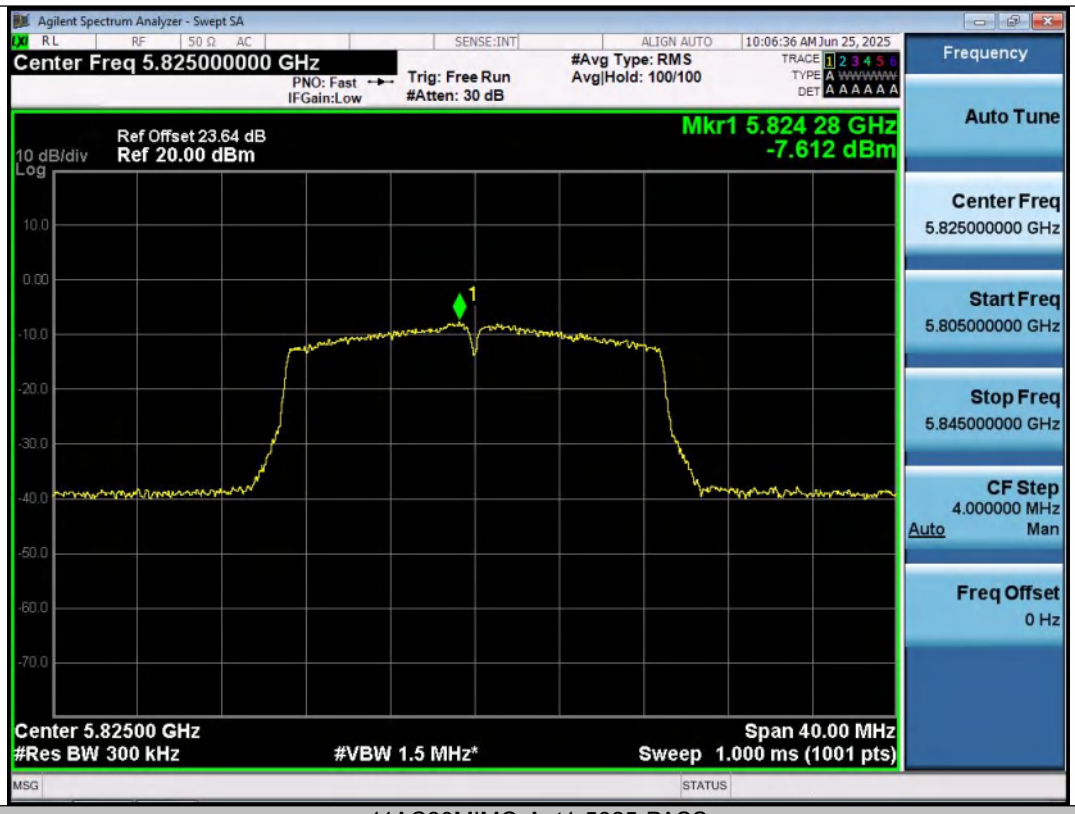


11AC20MIMO-Ant1-5785-PASS

11AC20MIMO-Ant2-5785-PASS



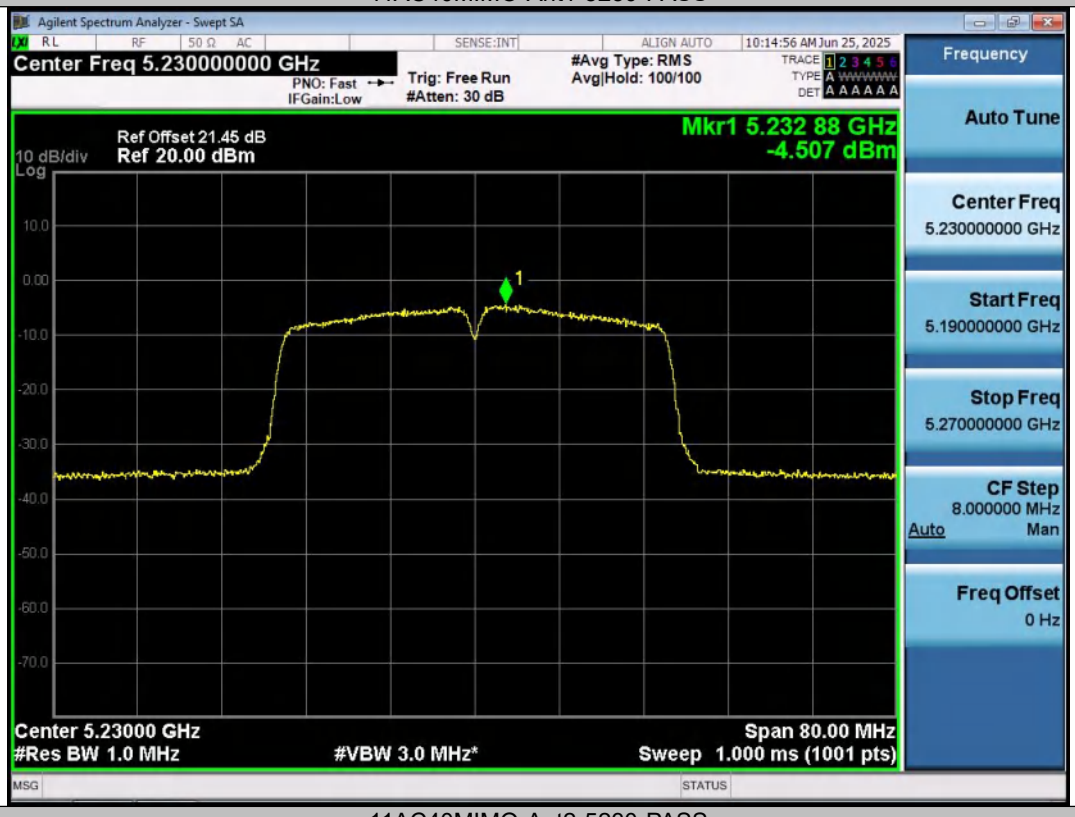
11AC20MIMO-Ant1-5825-PASS

11AC20MIMO-Ant2-5825-PASS

11AC40MIMO-Ant1-5190-PASS

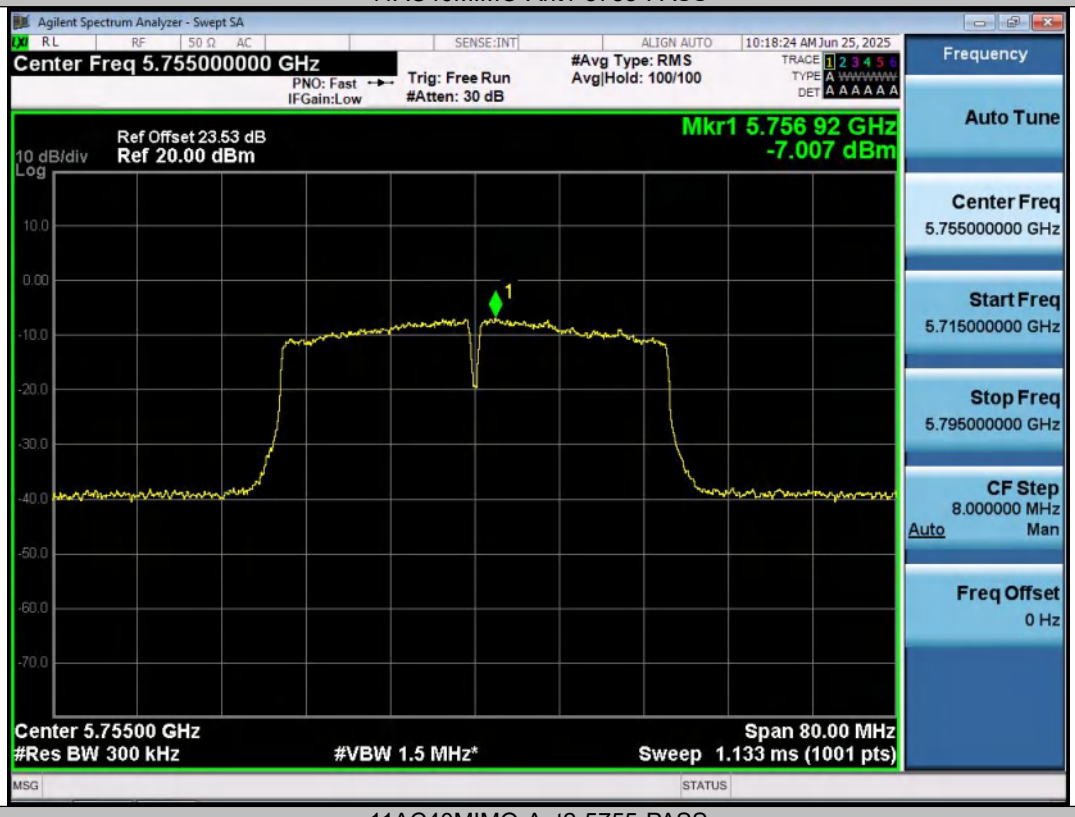
11AC40MIMO-Ant2-5190-PASS

11AC40MIMO-Ant1-5230-PASS



11AC40MIMO-Ant2-5230-PASS

11AC40MIMO-Ant1-5755-PASS



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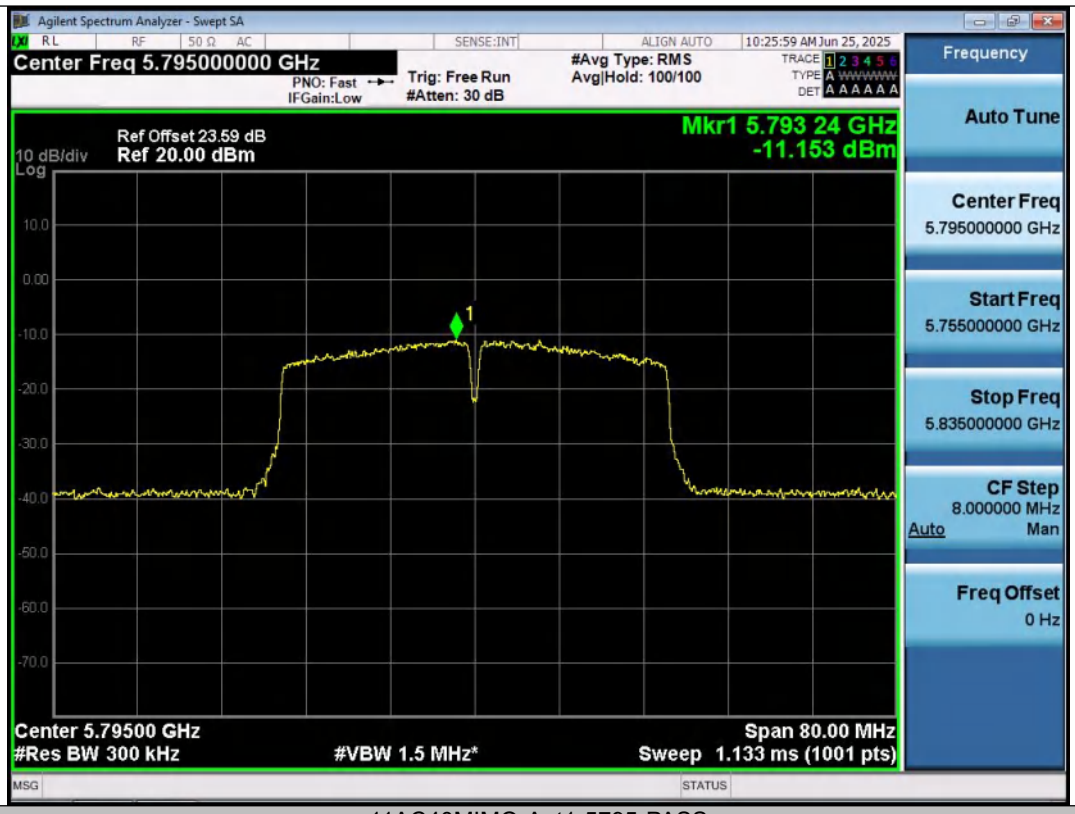
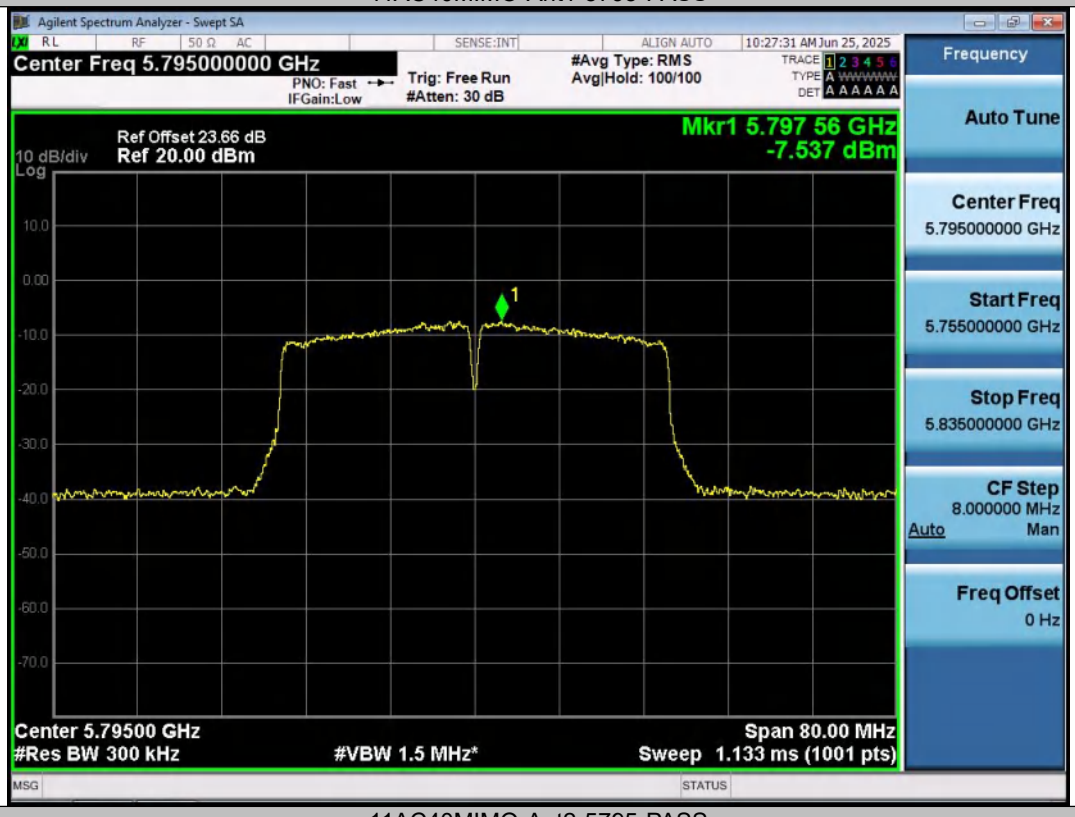


11AC40MIMO-Ant1-5795-PASS



11AC40MIMO-Ant2-5795-PASS

11AC80MIMO-Ant1-5210-PASS

11AC80MIMO-Ant2-5210-PASS

11AC80MIMO-Ant1-5775-PASS

11AC80MIMO-Ant2-5775-PASS

8.4 UNDESIRABLE RADIATED SPURIOUS EMISSION

8.4.1 Applicable Standard

According to FCC Part 15.407 (b), 15.209, 15.205
According to 789033 D02 SectionII(G)
According to RSS-GEN 8.9, 8.10 and 6.13

8.4.2 Conformance Limit

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.
For transmitters operating in the 5.25-5.35 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.
For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
For transmitters operating in the 5.725-5.85 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.
The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209
The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

The provisions of §15.205 apply to intentional radiators operating under this section,15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

8.4.3 Test Configuration

Test according to clause 6.2 radio frequency test setup

8.4.4 Test Procedure

■ Unwanted Emissions Measurements below 1000 MHz
Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.
The EUT was placed on a turn table which is 0.8m above ground plane.
And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
Repeat above procedures until all frequency measured was complete.
We use software control the EUT, Let EUT hopping on and transmit with highest power, All the modes have been tested and the worst result was reported.
Use the following spectrum analyzer settings:
SetRBW=120kHz for f < 1 GHz(30MHz to 1GHz), 200Hz for f<150KHz(9KHz to 150KHz), 9KHz for <30MHz(150KHz to 30KHz).
Set the VBW > RBW.
Detector = Peak.
Trace mode = max hold.
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.
Repeat above procedures until all frequency measured was complete.
■ Unwanted Maximumpeak Emissions Measurements above 1000 MHz
Maximum emission levels are measured by setting the analyzer as follows:
RBW = 1 MHz.
VBW ≥ 3 MHz.
Detector = Peak.
Sweep time = auto.
Trace mode = max hold.
Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.
■ Unwanted Average Emissions Measurements above 1000 MHz
Method VB (Averaging using reduced video bandwidth): Alternative method.
RBW = 1 MHz.
Video bandwidth. • If the EUT is configured to transmit with duty cycle ≥ 98 percent, set VBW ≤ RBW/100 (i.e., 10 kHz) but not less than 10 Hz.
• If the EUT duty cycle is < 98 percent, set VBW ≥ 1/T, where T is defined in section II.B.1.a).
Video bandwidth mode or display mode • The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to RMS and setting the Average-VBW Type to Power (RMS).
• As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to “Voltage” regardless of the display mode.
Detector = Peak.

Sweep time = auto.
Trace mode = max hold.
Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/x, where x is the duty cycle. For example, use at least 200 traces if the duty cycle is 25 percent. (If a specific emission is demonstrated to be continuous—i.e., 100 percent duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged.)

■ Band edge measurements.

Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth.
Marker-Delta Method.
The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.

8.4.5 Test Results

Temperature:	25° C
Relative Humidity:	60%
ATM Pressure:	1011 mbar

■ Spurious Emission below 30MHz(9KHz to 30MHz)

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m) PK	Emission Level(dBuV/m) AV	Limit 3m(dBuV/m) PK	Limit 3m(dBuV/m) AV	Over(dB) PK	Over(dB) AV
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Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor

■ **For Undesirable radiatedSpurious Emission in U-NII - 1**

●Undesirable radiated Spurious Emission Above 1GHz(1GHz to 40GHz)

All the antenna(Antenna 1&2) and modes(802.11a/n/ac) has been tested and the worst(Antenna 1,802.11a) result recorded was report as below:

Test mode:	802.11a	Frequency:	Channel 36: 5180MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
10101.5	V	60.66	-34.57	-27	7.57
10934.5	V	61.89	-33.34	-27	6.34
13135.7	V	63.76	-31.47	-27	4.47
10018.5	H	60.17	-35.06	-27	8.06
11527.6	H	62.14	-33.09	-27	6.09
13134.7	H	63.61	-31.62	-27	4.62

Test mode:	802.11a	Frequency:	Channel 40: 5200MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
10093.5	V	60.36	-34.87	-27	7.87
10924.5	V	62.71	-32.52	-27	5.52
13165.7	V	63.63	-31.6	-27	4.6
8202.42	H	56.60	-38.63	-27	11.63
9984.52	H	60.13	-35.1	-27	8.1
11021.5	H	62.35	-32.88	-27	5.88

Test mode:	802.11a	Frequency:	Channel 48: 5240MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
9984.52	V	60.50	-34.73	-27	7.73
10983.5	V	62.36	-32.87	-27	5.87
12819.6	V	63.38	-31.85	-27	4.85
10094.5	H	61.09	-34.14	-27	7.14
13130.7	H	64.34	-30.89	-27	3.89
14225.7	H	65.85	-29.38	-27	2.38

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value(VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode: 802.11a Frequency: Channel 36: 5180MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
10101.5	V	60.66	47.08	74	54	13.34	6.92
10934.5	V	61.89	43.65	74	54	12.11	10.35
13135.7	V	63.76	44.26	74	54	10.24	9.74
10018.5	H	60.17	46.57	74	54	13.83	7.43
11527.6	H	62.14	43.44	74	54	11.86	10.56
13134.7	H	63.61	43.99	74	54	10.39	10.01

Test mode: 802.11a Frequency: Channel 40: 5200MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
10093.5	V	60.36	46.25	74	54	13.64	7.75
10924.5	V	62.71	44.21	74	54	11.29	9.79
13165.7	V	63.63	44.31	74	54	10.37	9.69
8202.42	H	56.60	40.59	74	54	17.40	13.41
9984.52	H	60.13	41.63	74	54	13.87	12.37
11021.5	H	62.35	41.36	74	54	11.65	12.64

Test mode: 802.11a Frequency: Channel 48: 5240MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
9984.52	V	60.50	45.93	74	54	13.50	8.07
10983.5	V	62.36	43.82	74	54	11.64	10.18
12819.6	V	63.38	45.02	74	54	10.62	8.98
10094.5	H	61.09	47.04	74	54	12.91	6.96
13130.7	H	64.34	47.01	74	54	9.66	6.99
14225.7	H	65.85	46.02	74	54	8.15	7.98

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

●Undesirable radiated Undesirable radiatedSpurious Emission in Band Edge
All the antenna(Antenna 1&2) and modes(802.11a/n/ac) has been tested and the worst(Antenna 1,802.11ac(VHT20)) result recorded was report as below:

Test mode:	802.11ac(VHT20)	Frequency:	Channel 36: 5180MHz

Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5148.94	H	62.08	-33.15	-27	Pass
5149.59	V	57.89	-37.34	-27	Pass

Test mode:	802.11ac(VHT20)	Frequency:	Channel 48: 5240MHz

Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5351.01	H	54.22	-41.01	-27	Pass
5352.02	V	53.87	-41.36	-27	Pass

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value(VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode:	802.11ac(VHT20)	Frequency:	Channel 36: 5180MHz

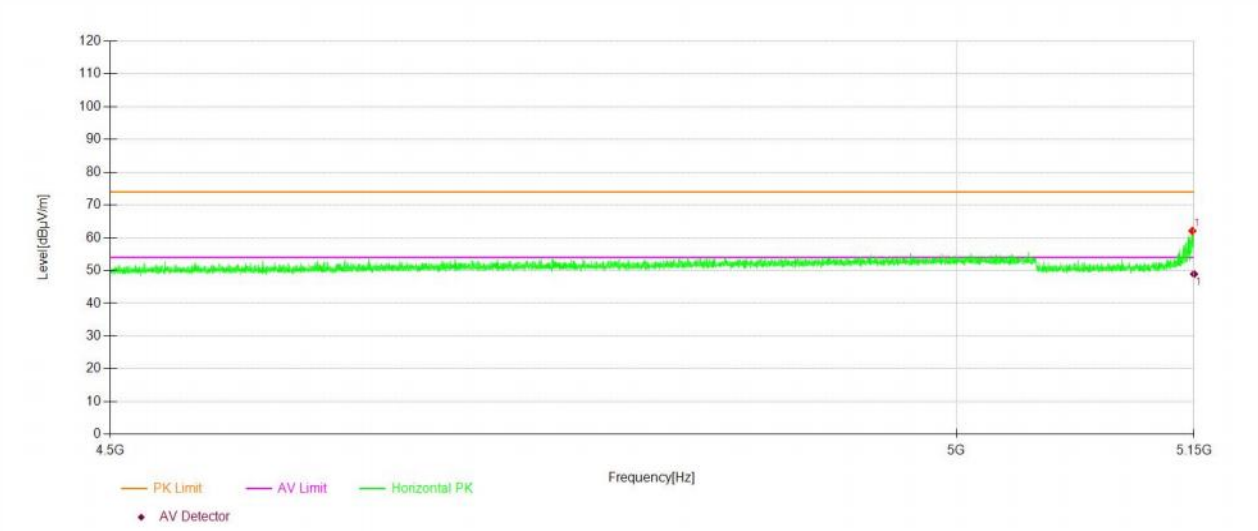
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)	Over(dB)
5148.94	H	62.08	74.00	11.92	48.93	54.00	5.07
5149.59	V	57.89	74.00	16.11	45.32	54.00	8.68

Test mode:	802.11ac(VHT20)	Frequency:	Channel 48: 5240MHz

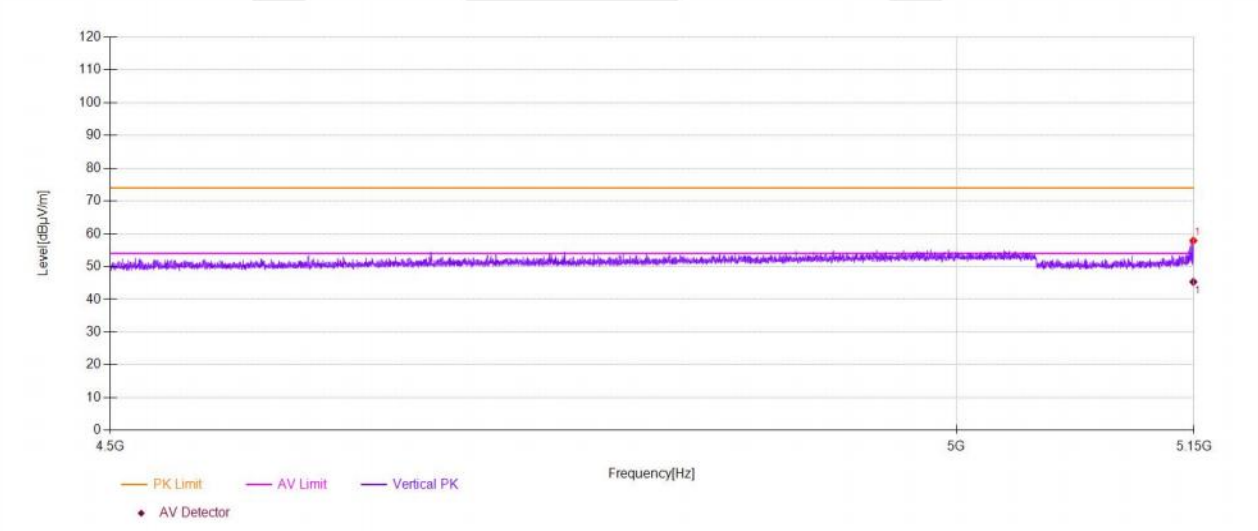
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)	Over(dB)
5351.01	H	54.22	74.00	19.78	45.21	54.00	8.79
5352.02	V	53.87	74.00	20.13	44.85	54.00	9.15

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

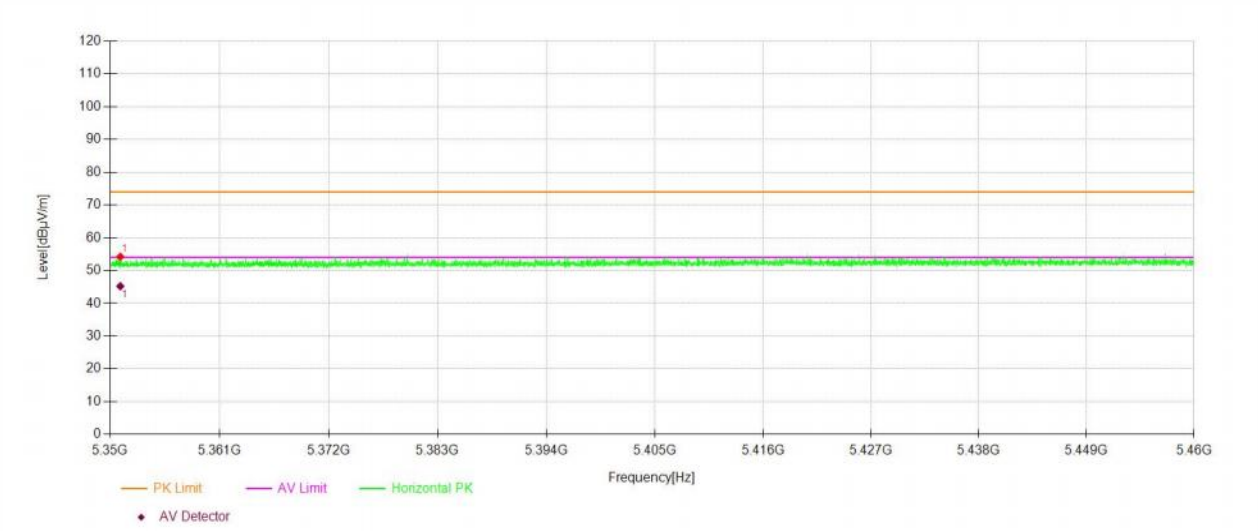
		U-NII - 1		
Test Model	Undesirable radiated	Undesirable radiated	Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 36: 5180MHz	Ant.Pol	H



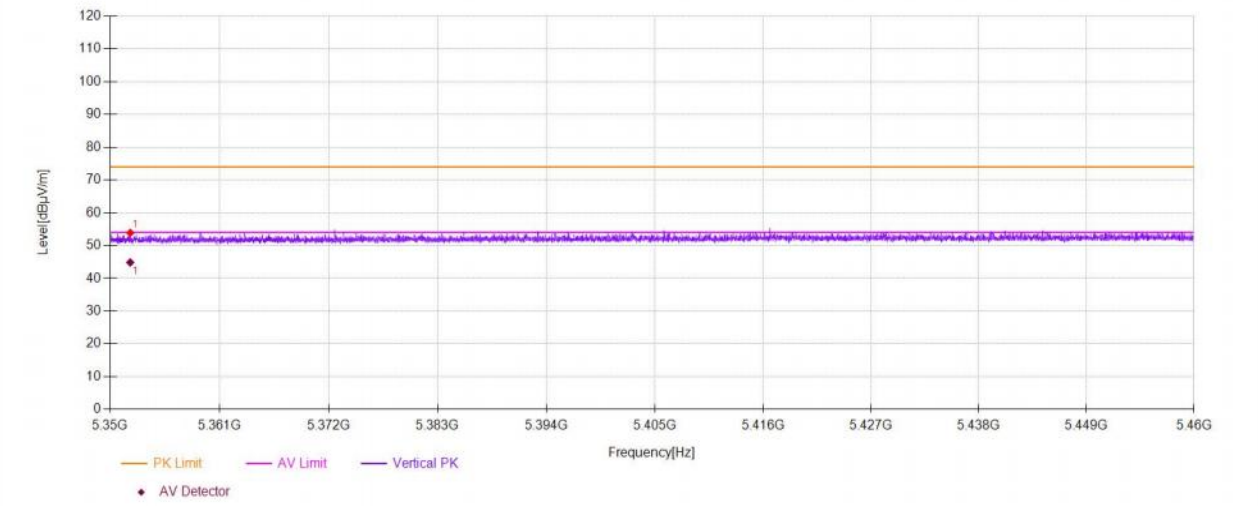
		U-NII - 1		
Test Model	Undesirable radiated	Undesirable radiated	Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 36: 5180MHz	Ant.Pol	V



		U-NII - 1		
Test Model	Undesirable radiated Undesirable radiated		Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 48: 5240MHz	Ant.Pol	H



		U-NII - 1		
Test Model	Undesirable radiated Undesirable radiated		Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 48: 5240MHz	Ant.Pol	V



■ For Undesirable radiated Spurious Emission in U-NII -3

●Undesirable radiated Spurious Emission Above 1GHz(1GHz to 40GHz)

All the antenna(Antenna 1&2) and modes(802.11a/n/ac) has been tested and the worst(Antenna 1,802.11a) result recorded was report as below:

Test mode:	802.11a	Frequency:	Channel 149: 5745MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8155.42	V	56.00	-39.23	-27	12.23
10663.5	V	61.89	-33.34	-27	6.34
12805.6	V	63.16	-32.07	-27	5.07
9974.52	H	60.55	-34.68	-27	7.68
11597.6	H	62.25	-32.98	-27	5.98
14339.7	H	65.93	-29.3	-27	2.3

Test mode:	802.11a	Frequency:	Channel 157: 5785MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8669.45	V	55.87	-39.36	-27	12.36
10971.5	V	62.58	-32.65	-27	5.65
14314.7	V	65.85	-29.38	-27	2.38
8091.41	H	55.56	-39.67	-27	12.67
11092.5	H	62.31	-32.92	-27	5.92
13173.7	H	64.24	-30.99	-27	3.99

Test mode:	802.11a	Frequency:	Channel 165: 5825MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Over(dB)
8705.45	V	56.26	-38.97	-27	11.97
11067.5	V	62.24	-32.99	-27	5.99
13137.7	V	65.05	-30.18	-27	3.18
10003.5	H	60.58	-34.65	-27	7.65
11515.6	H	62.55	-32.68	-27	5.68
14326.7	H	66.03	-29.2	-27	2.2

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value(VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

Test mode: 802.11a		Frequency:		Channel 149: 5745MHz			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
8155.42	V	56.00	40.01	74	54	18.00	13.99
10663.5	V	61.89	44.54	74	54	12.11	9.46
12805.6	V	63.16	45.39	74	54	10.84	8.61
9974.52	H	60.55	45.94	74	54	13.45	8.06
11597.6	H	62.25	42.86	74	54	11.75	11.14
14339.7	H	65.93	47.68	74	54	8.07	6.32

Test mode: 802.11a		Frequency:		Channel 157: 5785MHz			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
8669.45	V	55.87	42.44	74	54	18.13	11.56
10971.5	V	62.58	44.29	74	54	11.42	9.71
14314.7	V	65.85	48.50	74	54	8.15	5.50
8091.41	H	55.56	40.82	74	54	18.44	13.18
11092.5	H	62.31	44.49	74	54	11.69	9.51
13173.7	H	64.24	43.62	74	54	9.76	10.38

Test mode:: 802.11a		Frequency:		Channel 165: 5825MHz			
Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
8705.45	V	56.26	42.91	74	54	17.74	11.09
11067.5	V	62.24	44.55	74	54	11.76	9.45
13137.7	V	65.05	43.71	74	54	8.95	10.29
10003.5	H	60.58	45.88	74	54	13.42	8.12
11515.6	H	62.55	43.36	74	54	11.45	10.64
14326.7	H	66.03	47.63	74	54	7.97	6.37

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

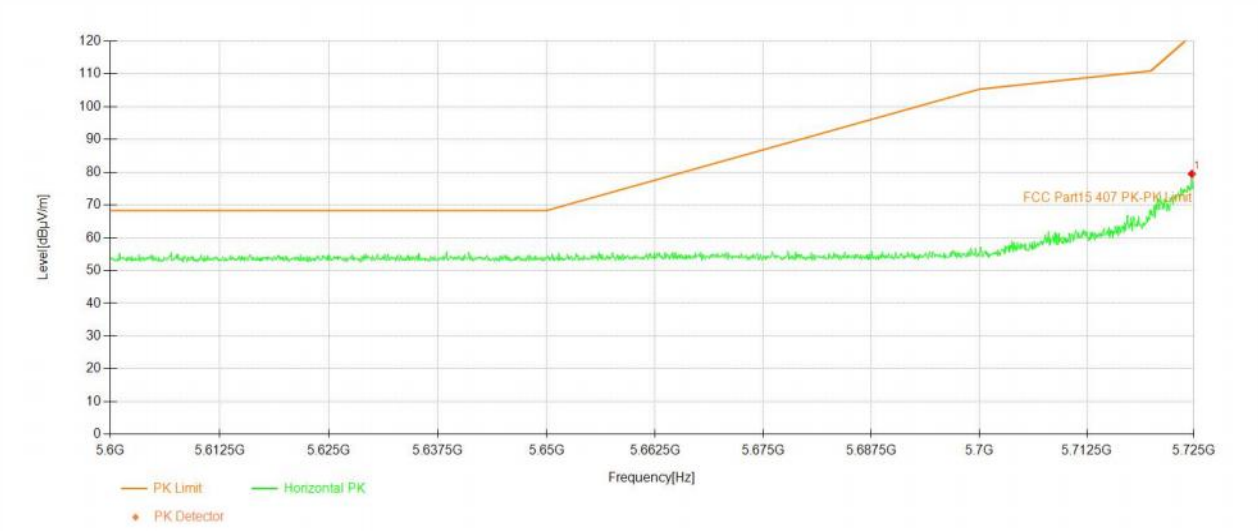
●Undesirable radiated Undesirable radiatedSpurious Emission in Band Edge
All the antenna(Antenna 1&2) and modes(802.11a/n/ac) has been tested and the worst(Antenna 1,802.11ac(VHT20)) result recorded was report as below:

Test mode:	802.11ac(VHT20)	Frequency:	Channel 149: 5745MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5724.74	H	79.48	-15.75	-27	PASS
5724.43	V	70.19	-25.04	-27	PASS

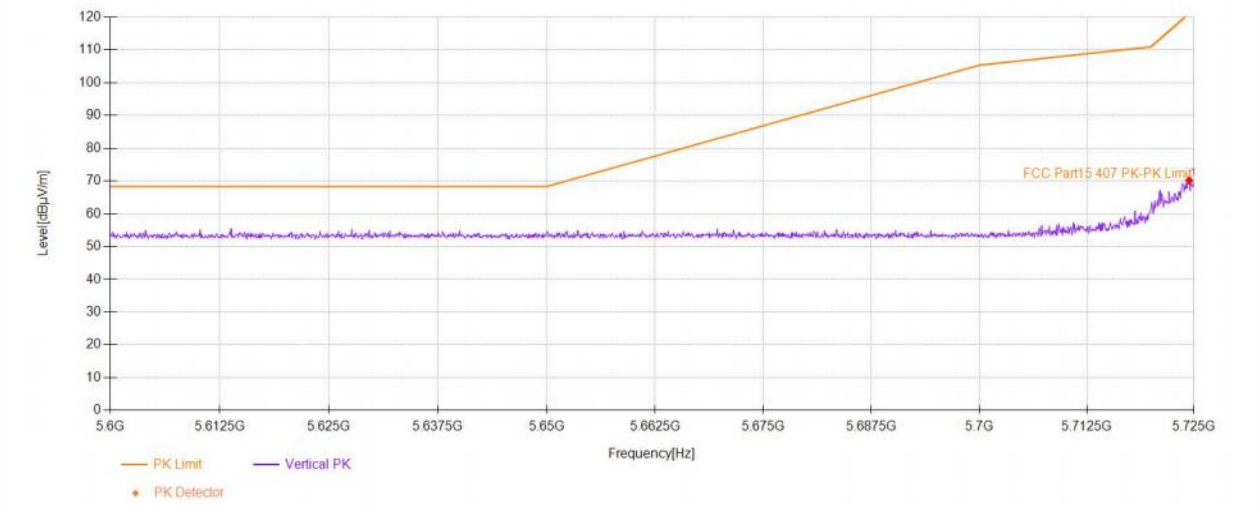
Test mode:	802.11ac(VHT20)	Frequency:	Channel 165: 5825MHz		
Freq. (MHz)	Ant.Pol.	Field Strength (RBW=100KHz) (dBuV/m)	E.I.R.P (dBm)	Limit (dBm)	Verdict
5850.12	H	67.44	-27.79	-27	PASS
5850.12	V	60.03	-35.2	-27	PASS

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value(VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3)EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77
d is the measurement distance in 3 meters

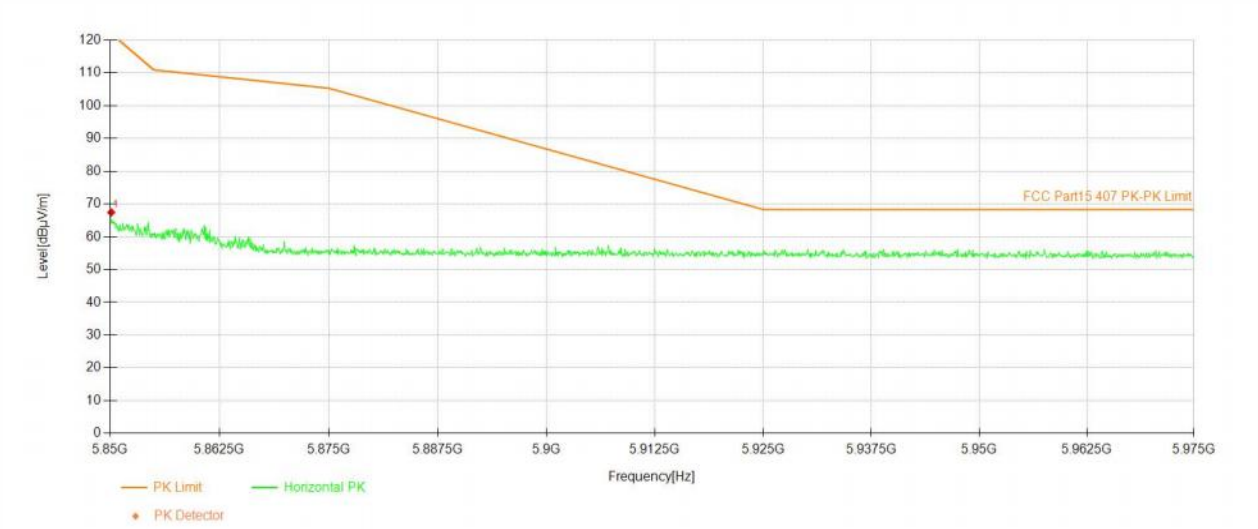
		U-NII-3		
Test Model	Undesirable radiated Undesirable radiated		Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 149: 5745MHz	Ant.Pol	H



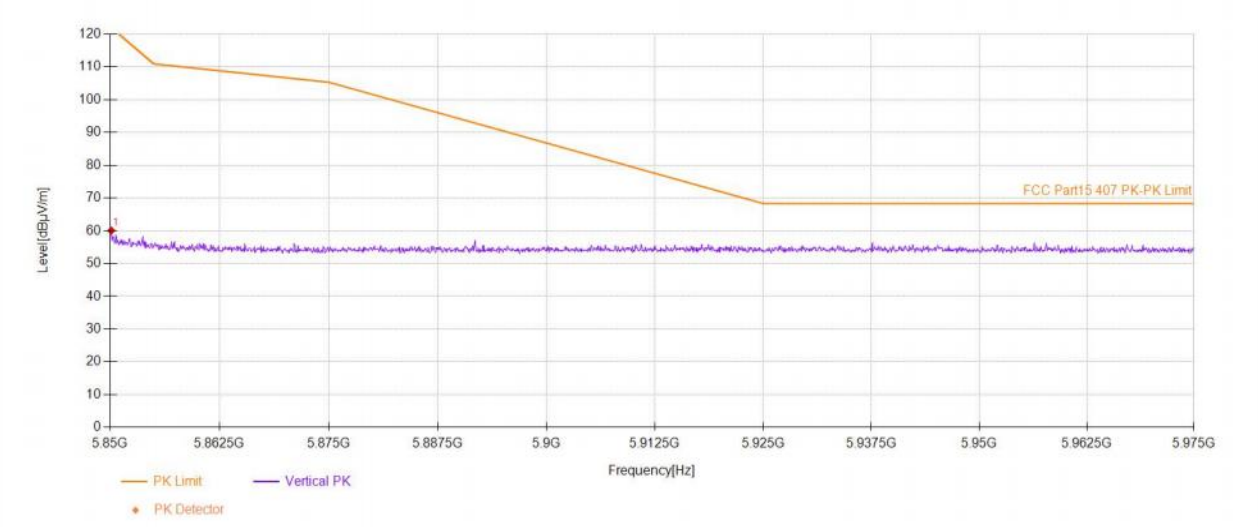
		U-NII-3		
Test Model	Undesirable radiated Undesirable radiated		Spurious Emission in Band Edge	
	802.11ac(VHT20)	Channel 149: 5745MHz	Ant.Pol	V



U-NII-3				
Test Model	Undesirable radiated Undesirable radiated	Spurious Emission in Band Edge		
802.11ac(VHT20)	Channel 165: 5825MHz	Ant.Pol	H	

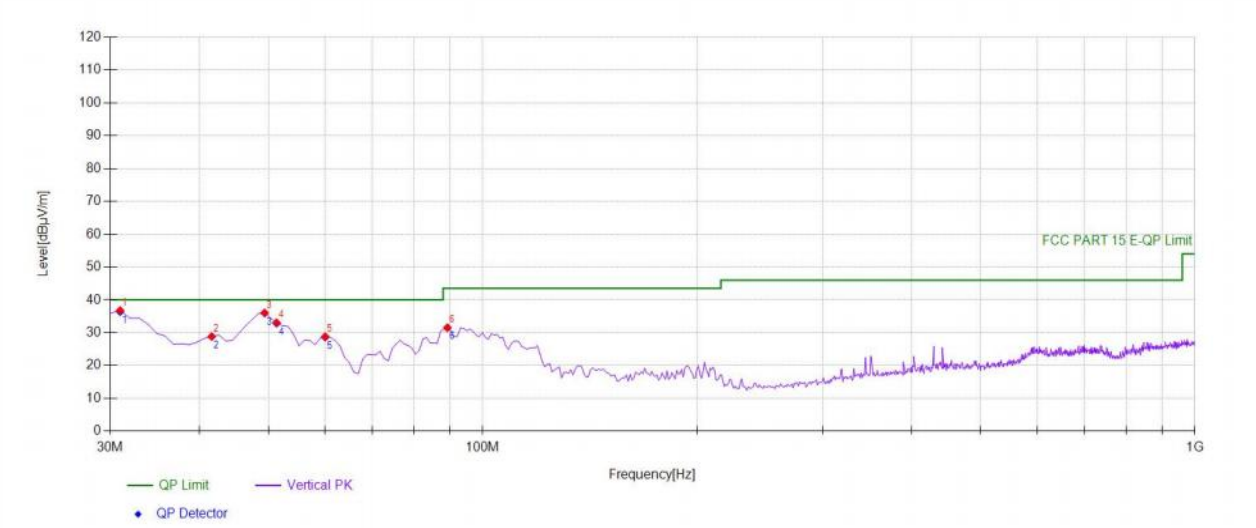


U-NII-3				
Test Model	Undesirable radiated Undesirable radiated	Spurious Emission in Band Edge		
802.11ac(VHT20)	Channel 165: 5825MHz	Ant.Pol	V	



■ Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)
All the antenna(Antenna 1&2) and modes(802.11a/n/ac) has been tested and the worst(Antenna 1,802.11a) result recorded was report as below:

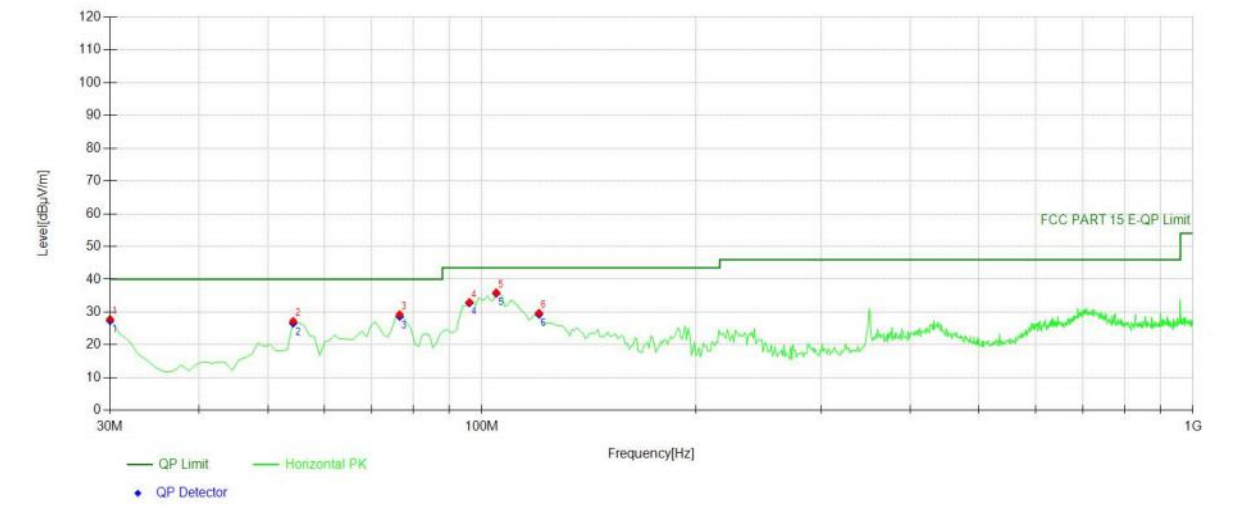
Mode:	11A 5180



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	30.971	55.47	-18.67	36.80	PK	40.00	3.20	Vertical
2	41.6517	46.08	-17.22	28.86	PK	40.00	11.14	Vertical
3	49.4194	52.14	-16.10	36.04	PK	40.00	3.96	Vertical
4	51.3614	49.29	-16.21	33.08	PK	40.00	6.92	Vertical
5	60.1001	46.25	-17.41	28.84	PK	40.00	11.16	Vertical
6	89.2292	50.41	-18.88	31.53	PK	43.50	11.97	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	30.971	-18.67	36.40	40.00	3.60
2	41.6517	-17.22	28.82	40.00	11.18
3	49.4194	-16.10	36.00	40.00	4.00
4	51.3614	-16.21	32.88	40.00	7.12
5	60.1001	-17.41	28.64	40.00	11.36
6	89.2292	-18.88	31.52	43.50	11.98

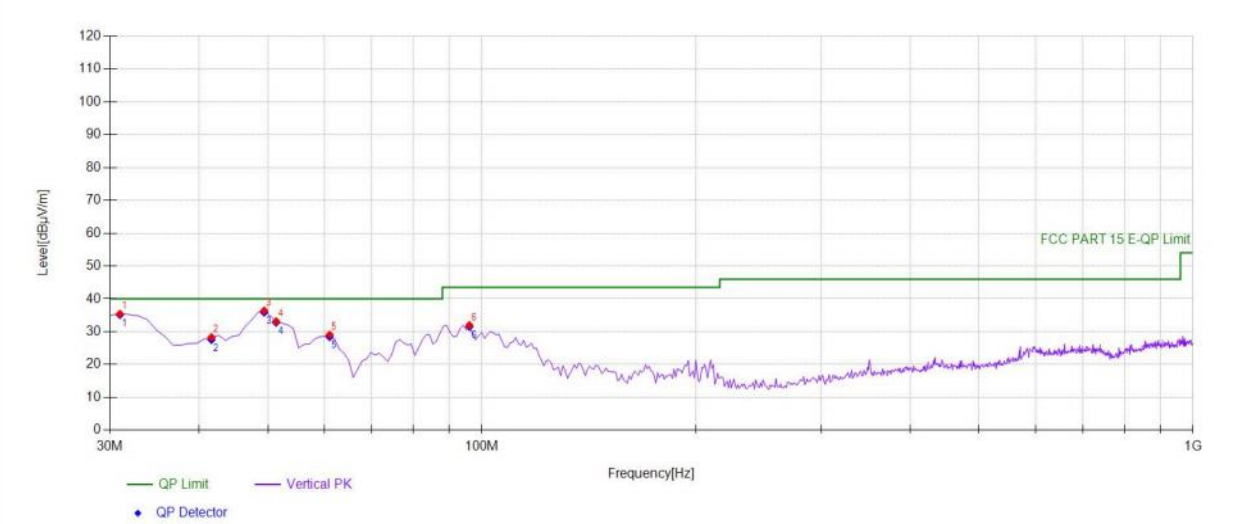
Mode:	11A 5180



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	30	46.64	-18.80	27.84	PK	40.00	12.16	Horizontal
2	54.2743	43.85	-16.60	27.25	PK	40.00	12.75	Horizontal
3	76.6066	49.06	-19.77	29.29	PK	40.00	10.71	Horizontal
4	96.026	50.86	-17.83	33.03	PK	43.50	10.47	Horizontal
5	104.764	53.49	-17.53	35.96	PK	43.50	7.54	Horizontal
6	120.300	48.35	-18.61	29.74	PK	43.50	13.76	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	30	-18.80	27.37	40.00	12.63
2	54.2743	-16.60	26.61	40.00	13.39
3	76.6066	-19.77	28.65	40.00	11.35
4	96.026	-17.83	32.75	43.50	10.75
5	104.7648	-17.53	35.68	43.50	7.82
6	120.3003	-18.61	29.30	43.50	14.20

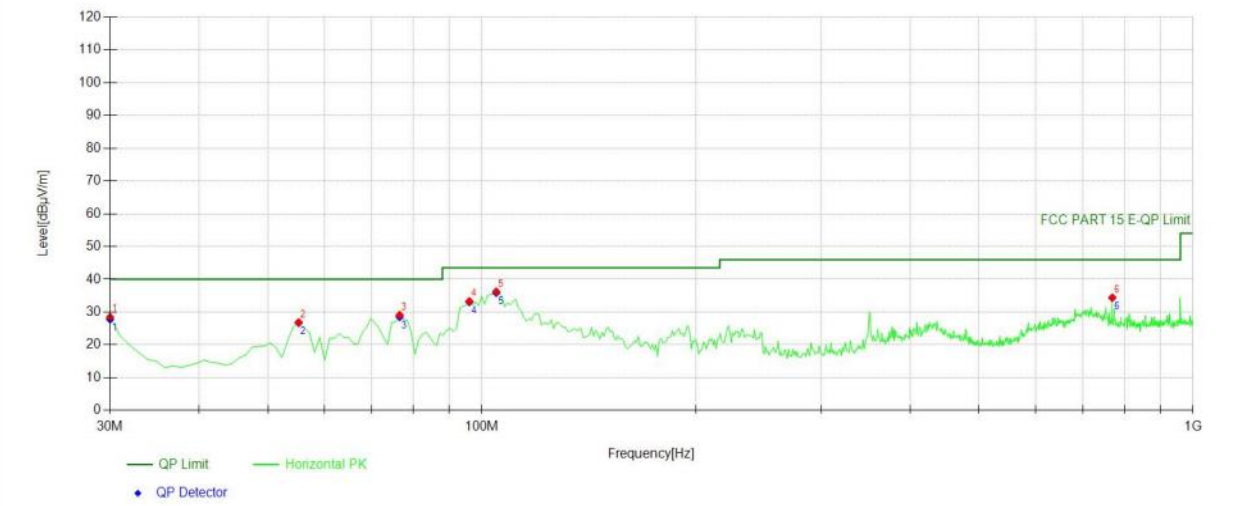
Mode:	11A 5200



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	30.971	54.12	-18.67	35.45	PK	40.00	4.55	Vertical
2	41.6517	45.52	-17.22	28.30	PK	40.00	11.70	Vertical
3	49.4194	52.53	-16.10	36.43	PK	40.00	3.57	Vertical
4	51.3614	49.38	-16.21	33.17	PK	40.00	6.83	Vertical
5	61.0711	46.61	-17.54	29.07	PK	40.00	10.93	Vertical
6	96.026	49.81	-17.83	31.98	PK	43.50	11.52	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	30.971	-18.67	35.13	40.00	4.87
2	41.6517	-17.22	27.53	40.00	12.47
3	49.4194	-16.10	35.86	40.00	4.14
4	51.3614	-16.21	32.79	40.00	7.21
5	61.0711	-17.54	28.41	40.00	11.59
6	96.026	-17.83	31.52	43.50	11.98

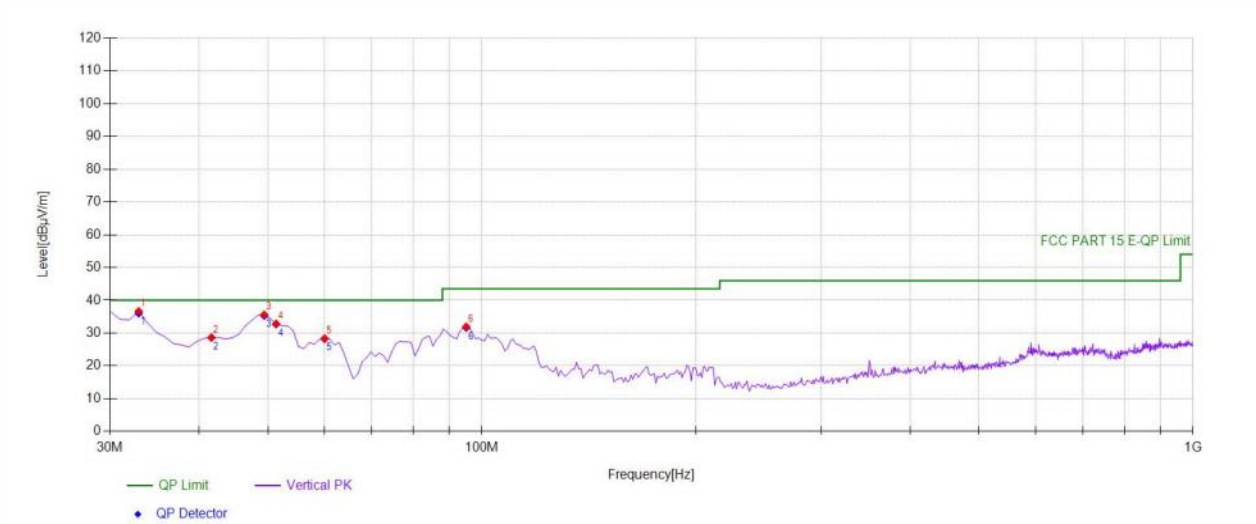
Mode:	11A 5200



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	30	47.33	-18.80	28.53	PK	40.00	11.47	Horizontal
2	55.2452	43.62	-16.74	26.88	PK	40.00	13.12	Horizontal
3	76.6066	48.90	-19.77	29.13	PK	40.00	10.87	Horizontal
4	96.026	51.16	-17.83	33.33	PK	43.50	10.17	Horizontal
5	104.764	53.83	-17.53	36.30	PK	43.50	7.20	Horizontal
6	769.879	41.01	-6.57	34.44	PK	46.00	11.56	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	30	-18.80	27.81	40.00	12.19
2	55.2452	-16.74	26.71	40.00	13.29
3	76.6066	-19.77	28.52	40.00	11.48
4	96.026	-17.83	33.07	43.50	10.43
5	104.7648	-17.53	35.88	43.50	7.62
6	769.8799	-6.57	34.38	46.00	11.62

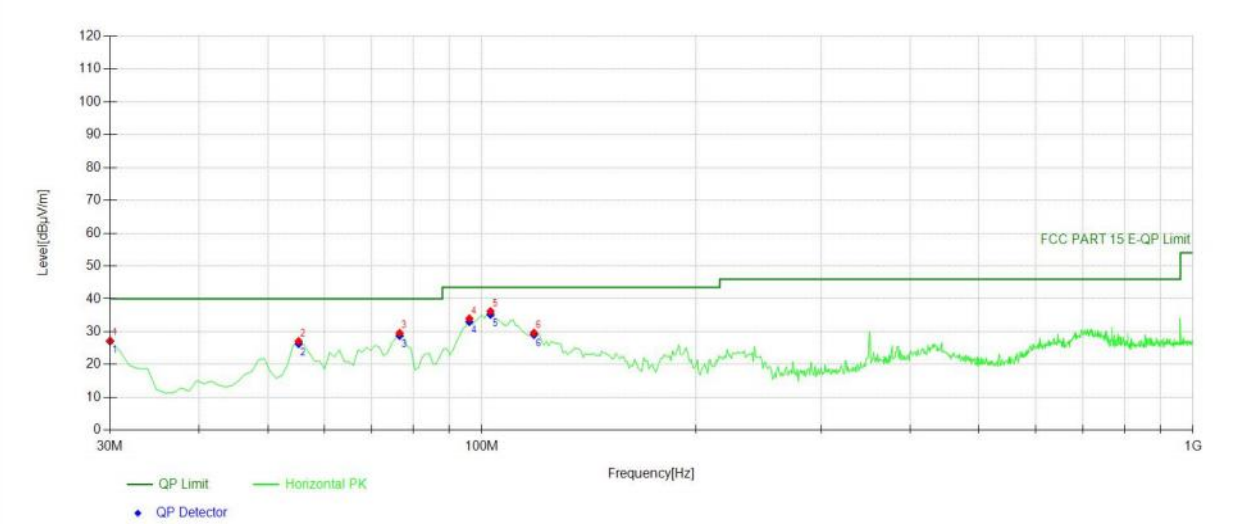
Mode:	11A 5240



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	32.9129	55.07	-18.41	36.66	PK	40.00	3.34	Vertical
2	41.6517	45.87	-17.22	28.65	PK	40.00	11.35	Vertical
3	49.4194	51.71	-16.10	35.61	PK	40.00	4.39	Vertical
4	51.3614	49.05	-16.21	32.84	PK	40.00	7.16	Vertical
5	60.1001	45.76	-17.41	28.35	PK	40.00	11.65	Vertical
6	95.0551	49.91	-17.97	31.94	PK	43.50	11.56	Vertical

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	32.9129	-18.41	36.05	40.00	3.95
2	41.6517	-17.22	28.60	40.00	11.40
3	49.4194	-16.10	35.28	40.00	4.72
4	51.3614	-16.21	32.70	40.00	7.30
5	60.1001	-17.41	28.21	40.00	11.79
6	95.0551	-17.97	31.64	43.50	11.86

Mode:	11A 5240



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	30	46.04	-18.80	27.24	PK	40.00	12.76	Horizontal
2	55.2452	43.84	-16.74	27.10	PK	40.00	12.90	Horizontal
3	76.6066	49.37	-19.77	29.60	PK	40.00	10.40	Horizontal
4	96.026	51.83	-17.83	34.00	PK	43.50	9.50	Horizontal
5	102.822	53.62	-17.40	36.22	PK	43.50	7.28	Horizontal
6	118.358	48.15	-18.47	29.68	PK	43.50	13.82	Horizontal

Final Data List					
NO.	Freq. [MHz]	Factor [dB/m]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]
1	30	-18.80	27.06	40.00	12.94
2	55.2452	-16.74	26.28	40.00	13.72
3	76.6066	-19.77	28.78	40.00	11.22
4	96.026	-17.83	33.01	43.50	10.49
5	102.8228	-17.40	35.23	43.50	8.27
6	118.3584	-18.47	29.05	43.50	14.45

8.5 POWER LINE CONDUCTED EMISSIONS

8.5.1 Applicable Standard

According to FCC Part 15.207(a)
According to IC RSS-Gen 8.8

8.5.2 Conformance Limit

Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.5.3 Test Configuration

Test according to clause 6.3 conducted emission test setup

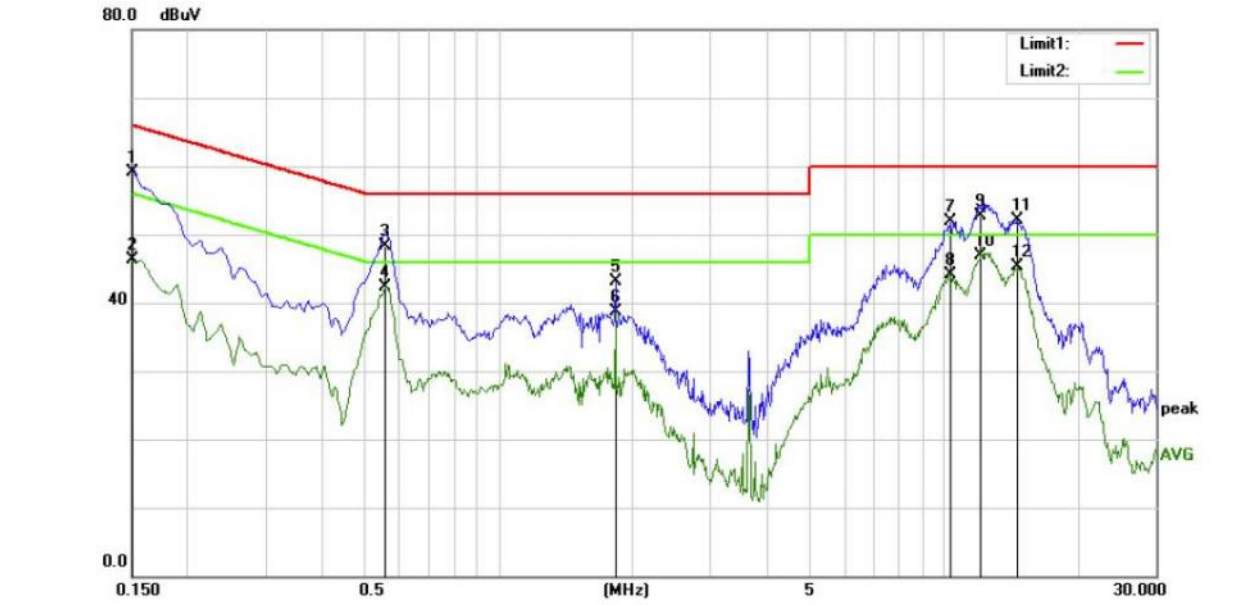
8.5.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

8.5.5 Test Results

Pass

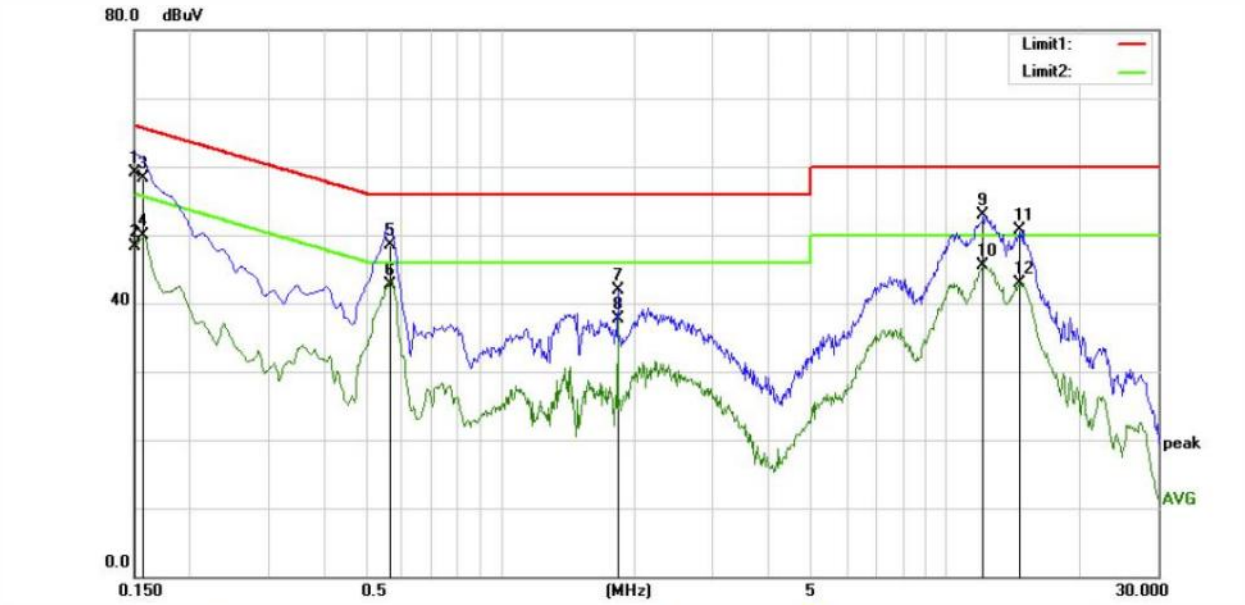
The AC120V &240V voltage have been tested, and the worst result recorded was report as below:



Site Conduction #1 Phase: L1 Temperature: 23.8

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 52 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	49.09	10.01	59.10	66.00	-6.90	QP	
2		0.1500	36.24	10.01	46.25	56.00	-9.75	AVG	
3		0.5580	38.33	9.97	48.30	56.00	-7.70	QP	
4		0.5580	32.43	9.97	42.40	46.00	-3.60	AVG	
5		1.8300	33.17	9.97	43.14	56.00	-12.86	QP	
6		1.8300	28.76	9.97	38.73	46.00	-7.27	AVG	
7		10.3580	41.77	10.14	51.91	60.00	-8.09	QP	
8		10.3580	34.05	10.14	44.19	50.00	-5.81	AVG	
9		12.1820	42.60	10.20	52.80	60.00	-7.20	QP	
10	*	12.1820	36.62	10.20	46.82	50.00	-3.18	AVG	
11		14.6540	41.86	10.29	52.15	60.00	-7.85	QP	
12		14.6540	34.96	10.29	45.25	50.00	-4.75	AVG	



Site Conduction #1 Phase: N Temperature: 23.8

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 52 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	49.27	9.93	59.20	66.00	-6.80	QP	
2		0.1500	38.33	9.93	48.26	56.00	-7.74	AVG	
3		0.1580	48.37	9.93	58.30	65.57	-7.27	QP	
4		0.1580	40.04	9.93	49.97	55.57	-5.60	AVG	
5		0.5660	38.66	9.94	48.60	56.00	-7.40	QP	
6	*	0.5660	32.86	9.94	42.80	46.00	-3.20	AVG	
7		1.8300	31.85	10.04	41.89	56.00	-14.11	QP	
8		1.8300	27.61	10.04	37.65	46.00	-8.35	AVG	
9		12.1820	42.66	10.30	52.96	60.00	-7.04	QP	
10		12.1820	35.25	10.30	45.55	50.00	-4.45	AVG	
11		14.6220	40.23	10.42	50.65	60.00	-9.35	QP	
12		14.6220	32.57	10.42	42.99	50.00	-7.01	AVG	

8.6 ANTENNA APPLICATION

8.6.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. 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.
FCC 47 CFR Part15.407(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.
RSS-Gen Section 6.8	The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

8.6.2 Result

PASS.

Note: ☑ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

Please refer to the attached documentInternal Photos to show the antenna connector.

--------- END OF REPORT --------