17:16:30 09.07.2025

11AC80MIMO_WIFI0_5610

17:17:44 09.07.2025

11AC80MIMO_WIFI1_5610

17:18:42 09.07.2025

11AC80MIMO_WIFI0_5690

17:20:07 09.07.2025

11AC80MIMO_WIFI1_5690

Conclusion: PASS

A.5. Radiated Unwanted Emission

A.5.1 Limits

Unwanted Emissions in the unrestricted bands shall not exceed the limits that shown in 15.407:

Standard	Limit
FCC 47 CFR Part 15.407	(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 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. (3) 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.

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

Frequency of emission (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Note: When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor (as defined in KDB 789033 II.G.2.d).

A.5.2 Test setup

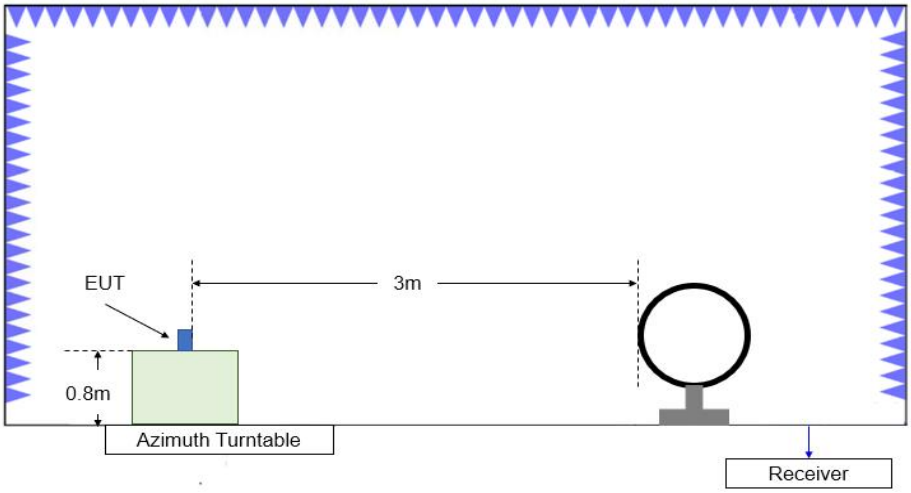


Figure A.5.1. Test Site Diagram (9kHz-30MHz)

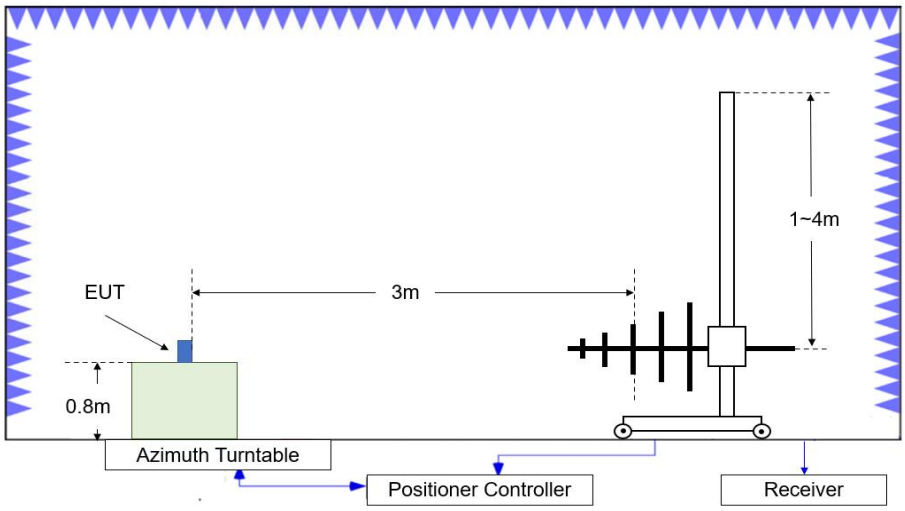


Figure A.5.2. Test Site Diagram (30MHz-1GHz)

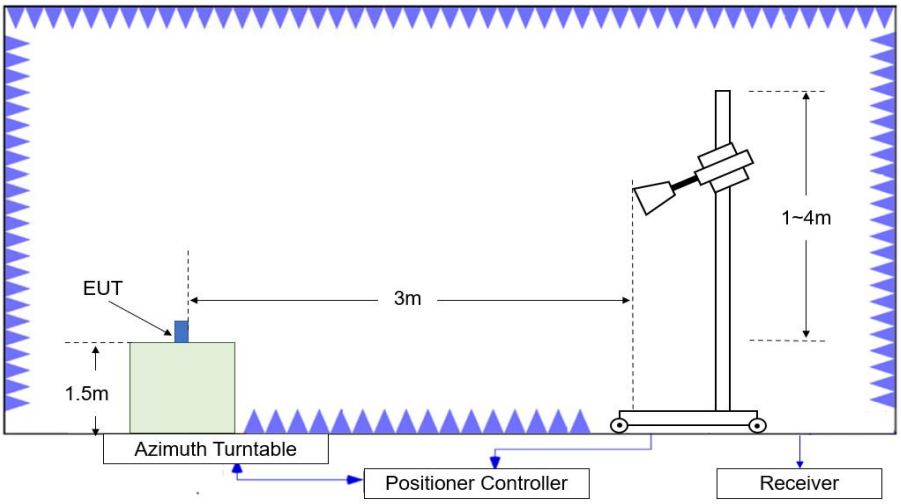


Figure A.5.3. Test Site Diagram (1GHz-40GHz)

A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10and KDB 789033 D02 v02r01.

Test setting

Frequency of emission (MHz)	RBW/VBW
30-1000	100kHz/300kHz
1000-4000	1MHz/3MHz
4000-18000	1MHz/3MHz
18000-26500	1MHz/3MHz
26500-40000	1MHz/3MHz

A.5.4 Calculation

1. The measurement results reported below is calculated by:

Measurement Results (dBμV/m) = $P_{measurement}$ (dBμV) + Cable Loss(dB) + Antenna Factor (dB/m)

Where: $P_{measurement}$ is the field strength recorded from the instrument

2. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

E=EIRP- 20log (*D*) +104.77

Where:

E is the field strength in dBμV/m

D is the measurement distance in meters

EIRP is the equivalent isotropically radiated power in dBm

Test note

1. The EUT is operating at its maximum duty cycle and its maximum power control level.
2. Investigation has been done on all modes and modulations/data rates. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.
3. Spurious emissions for all channels were investigated and almost the same below 1GHz. According to FCC 47 CFR §15.31, emission levels are not report much lower than the limit by over 20dB
4. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept.
5. EUT in each of three orthogonal axis emissions had been tested out only the worst case (axis data) recorded in the report.
6. Measurement frequencies were performed from 9 kHz to the 10^{th} harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dBof the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)

Measurement Results:

Average Results:

802.11a

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17916.950	48.37	-25.55	45.40	28.52	54.00	5.63	H
17923.000	48.32	-25.55	45.40	28.47	54.00	5.68	H
10638.800	41.48	-32.88	38.40	35.96	54.00	12.52	V
10641.550	41.41	-32.88	38.40	35.89	54.00	12.59	V
5350.480	43.82	-27.08	34.20	36.70	54.00	10.18	V
5353.024	43.69	-27.08	34.20	36.57	54.00	10.31	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17964.250	48.67	-25.55	45.40	28.82	54.00	5.33	H
17945.550	48.54	-25.55	45.40	28.69	54.00	5.46	V
14498.150	40.67	-28.78	41.80	27.65	54.00	13.33	H
14472.850	40.63	-28.78	41.80	27.61	54.00	13.37	V
5412.895	43.68	-27.18	34.30	36.56	54.00	10.32	V
5421.055	43.66	-27.18	34.30	36.54	54.00	10.34	V

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17959.300	48.11	-25.55	45.40	28.26	54.00	5.89	V
17952.150	48.08	-25.55	45.40	28.23	54.00	5.92	V
14497.600	40.55	-28.78	41.80	27.53	54.00	13.45	H
14471.750	40.43	-28.78	41.80	27.41	54.00	13.57	V
5148.620	43.26	-27.27	34.00	36.53	54.00	10.74	H
5149.760	43.11	-27.27	34.00	36.38	54.00	10.89	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17939.500	48.11	-25.55	45.40	28.26	54.00	5.89	H
17972.500	48.09	-25.55	45.40	28.24	54.00	5.91	H
10638.800	40.75	-32.88	38.40	35.23	54.00	13.25	V
14494.850	40.61	-28.78	41.80	27.59	54.00	13.39	V
5355.744	43.35	-27.08	34.20	36.23	54.00	10.65	V
5353.840	43.26	-27.08	34.20	36.14	54.00	10.74	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17943.350	48.24	-25.55	45.40	28.39	54.00	5.76	V
17946.100	48.18	-25.55	45.40	28.33	54.00	5.82	V
14495.400	40.71	-28.78	41.80	27.69	54.00	13.29	H
14470.650	40.43	-28.78	41.80	27.41	54.00	13.57	V
5421.520	43.92	-27.18	34.30	36.80	54.00	10.08	V
5372.050	43.71	-27.08	34.20	36.59	54.00	10.29	V

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17919.700	48.10	-25.55	45.40	28.25	54.00	5.90	H
17948.850	47.97	-25.55	45.40	28.12	54.00	6.03	V
14491.550	40.46	-28.78	41.80	27.44	54.00	13.54	V
14499.250	40.35	-28.78	41.80	27.33	54.00	13.65	V
5149.980	44.58	-27.27	34.00	37.85	54.00	9.42	H
5149.800	44.27	-27.27	34.00	37.54	54.00	9.73	H

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17948.850	48.41	-25.55	45.40	28.56	54.00	5.59	V
17942.250	48.05	-25.55	45.40	28.20	54.00	5.95	V
10621.200	41.44	-32.88	38.40	35.92	54.00	12.56	V
10612.950	40.94	-32.88	38.40	35.42	54.00	13.06	V
5350.064	46.93	-27.08	34.20	39.81	54.00	7.07	V
5352.880	46.70	-27.08	34.20	39.58	54.00	7.30	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17954.900	48.26	-25.55	45.40	28.41	54.00	5.74	H
17915.300	47.98	-25.55	45.40	28.13	54.00	6.02	V
14498.700	40.69	-28.78	41.80	27.67	54.00	13.31	H
14488.800	40.62	-28.78	41.80	27.60	54.00	13.38	H
5459.710	43.64	-27.06	34.30	36.40	54.00	10.36	V
5457.865	43.53	-27.06	34.30	36.29	54.00	10.47	V

802.11ac-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17905.400	48.03	-25.55	45.40	28.18	54.00	5.97	H
17922.450	48.02	-25.55	45.40	28.17	54.00	5.98	H
14499.800	40.56	-28.78	41.80	27.54	54.00	13.44	V
14491.000	40.41	-28.78	41.80	27.39	54.00	13.59	H
5052.240	42.69	-27.44	33.80	36.33	54.00	11.31	H
5145.020	42.47	-27.34	33.90	35.91	54.00	11.53	V

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17927.400	48.07	-25.55	45.40	28.22	54.00	5.93	V
17947.750	48.05	-25.55	45.40	28.20	54.00	5.95	H
10638.800	42.49	-32.88	38.40	36.97	54.00	11.51	V
10641.000	42.02	-32.88	38.40	36.50	54.00	11.98	V
5357.072	42.81	-27.08	34.20	35.69	54.00	11.19	H
5350.896	42.78	-27.08	34.20	35.66	54.00	11.22	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17947.200	48.29	-25.55	45.40	28.44	54.00	5.71	V
17936.200	47.95	-25.55	45.40	28.10	54.00	6.05	V
14486.050	40.58	-28.78	41.80	27.56	54.00	13.42	H
14495.950	40.53	-28.78	41.80	27.51	54.00	13.47	V
5454.310	42.56	-27.06	34.30	35.32	54.00	11.44	V
5455.285	42.56	-27.06	34.30	35.32	54.00	11.44	V

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17928.500	48.03	-25.55	45.40	28.18	54.00	5.97	H
17935.100	48.03	-25.55	45.40	28.18	54.00	5.97	H
14488.800	40.47	-28.78	41.80	27.45	54.00	13.53	H
14495.950	40.47	-28.78	41.80	27.45	54.00	13.53	H
5149.560	44.05	-27.27	34.00	37.32	54.00	9.95	V
5149.460	43.60	-27.27	34.00	36.87	54.00	10.40	V

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17934.000	48.24	-25.55	45.40	28.39	54.00	5.76	H
17926.300	48.08	-25.55	45.40	28.23	54.00	5.92	V
14471.750	40.39	-28.78	41.80	27.37	54.00	13.61	H
14489.350	40.35	-28.78	41.80	27.33	54.00	13.65	H
5350.032	45.83	-27.08	34.20	38.71	54.00	8.17	V
5350.704	45.78	-27.08	34.20	38.66	54.00	8.22	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17941.150	48.03	-25.55	45.40	28.18	54.00	5.97	V
17927.950	47.88	-25.55	45.40	28.03	54.00	6.12	H
14482.750	40.98	-28.78	41.80	27.96	54.00	13.02	V
14489.350	40.76	-28.78	41.80	27.74	54.00	13.24	H
5459.005	43.39	-27.06	34.30	36.15	54.00	10.61	V
5458.795	43.06	-27.06	34.30	35.82	54.00	10.94	V

802.11ac-HT80

Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17946.100	48.20	-25.55	45.40	28.35	54.00	5.80	H
17930.700	48.09	-25.55	45.40	28.24	54.00	5.91	V
14499.250	40.59	-28.78	41.80	27.57	54.00	13.41	V
14487.150	40.54	-28.78	41.80	27.52	54.00	13.46	V
5145.640	47.41	-27.34	33.90	40.85	54.00	6.59	H
5145.780	47.13	-27.34	33.90	40.57	54.00	6.87	H

Channel 58

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17947.750	48.30	-25.55	45.40	28.45	54.00	5.70	H
17944.450	48.09	-25.55	45.40	28.24	54.00	5.91	H
14493.200	40.56	-28.78	41.80	27.54	54.00	13.44	H
14483.850	40.55	-28.78	41.80	27.53	54.00	13.45	H
5361.168	48.39	-27.08	34.20	41.27	54.00	5.61	V
5361.472	48.18	-27.08	34.20	41.06	54.00	5.82	V

Channel 106

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17947.750	48.11	-25.55	45.40	28.26	54.00	5.89	H
17914.200	48.09	-25.55	45.40	28.24	54.00	5.91	H
14495.400	40.79	-28.78	41.80	27.77	54.00	13.21	V
14494.300	40.68	-28.78	41.80	27.66	54.00	13.32	H
5457.670	47.29	-27.06	34.30	40.05	54.00	6.71	V
5457.070	47.24	-27.06	34.30	40.00	54.00	6.76	V

PEAK Results:

802.11a

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17950.500	59.62	-25.55	45.40	39.77	74.00	14.38	H
17951.050	59.44	-25.55	45.40	39.59	74.00	14.56	H
10641.550	52.95	-32.88	38.40	47.43	74.00	21.05	V
14214.900	52.78	-28.86	41.70	39.94	68.20	15.42	H
5350.688	57.11	-27.08	34.20	49.99	74.00	16.89	V
5350.544	56.65	-27.08	34.20	49.53	74.00	17.35	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17948.300	59.49	-25.55	45.40	39.64	74.00	14.51	H
17964.800	59.49	-25.55	45.40	39.64	74.00	14.51	H
14200.600	52.92	-28.86	41.70	40.08	68.20	15.28	H
14122.500	52.85	-28.86	41.80	39.91	68.20	15.35	V
5409.520	54.47	-27.18	34.30	47.35	74.00	19.53	V
5469.385	58.09	-27.06	34.30	50.85	68.20	10.11	V

802.11n-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17935.650	59.02	-25.55	45.40	39.17	74.00	14.98	H
17925.750	58.87	-25.55	45.40	39.02	74.00	15.13	V
10364.900	53.26	-33.02	38.10	48.18	68.20	14.94	V
14547.100	52.81	-28.78	41.80	39.79	68.20	15.39	V
5096.080	53.80	-27.44	33.80	47.44	74.00	20.20	H
5103.440	53.42	-27.34	33.90	46.86	74.00	20.58	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17920.800	59.56	-25.55	45.40	39.71	74.00	14.44	V
17967.550	58.96	-25.55	45.40	39.11	74.00	15.04	V
14093.350	52.86	-28.98	41.80	40.04	68.20	15.34	H
14125.250	52.46	-28.86	41.80	39.52	68.20	15.74	H
5354.272	55.97	-27.08	34.20	48.85	74.00	18.03	V
5350.512	55.65	-27.08	34.20	48.53	74.00	18.35	H

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17887.800	58.96	-25.55	45.40	39.11	74.00	15.04	V
17907.600	58.83	-25.55	45.40	38.98	74.00	15.17	V
14070.250	52.88	-28.98	41.80	40.06	68.20	15.32	V
14646.650	52.38	-28.77	41.70	39.45	68.20	15.82	V
5415.925	54.25	-27.18	34.30	47.13	74.00	19.75	V
5465.110	54.05	-27.06	34.30	46.81	68.20	14.15	V

802.11n-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17909.800	58.85	-25.55	45.40	39.00	74.00	15.15	V
17923.000	58.57	-25.55	45.40	38.72	74.00	15.43	V
14286.400	52.72	-28.97	41.70	39.99	68.20	15.48	H
14181.350	52.71	-28.86	41.70	39.87	68.20	15.49	V
5149.980	55.70	-27.27	34.00	48.97	74.00	18.30	H
5149.580	55.44	-27.27	34.00	48.71	74.00	18.56	V

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17954.900	59.14	-25.55	45.40	39.29	74.00	14.86	H
17884.500	58.53	-25.55	45.40	38.68	74.00	15.47	H
14624.100	52.39	-28.77	41.70	39.46	68.20	15.81	V
14203.350	52.35	-28.86	41.70	39.51	68.20	15.85	H
5350.336	59.14	-27.08	34.20	52.02	74.00	14.86	V
5351.488	59.12	-27.08	34.20	52.00	74.00	14.88	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17905.950	58.96	-25.55	45.40	39.11	74.00	15.04	V
17941.150	58.93	-25.55	45.40	39.08	74.00	15.07	V
14203.350	52.68	-28.86	41.70	39.84	68.20	15.52	H
14608.700	52.20	-28.77	41.70	39.27	68.20	16.00	H
5432.275	54.31	-27.18	34.30	47.19	74.00	19.69	V
5467.870	57.84	-27.06	34.30	50.60	68.20	10.36	V

802.11ac-HT20

Channel 36

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17958.200	58.99	-25.55	45.40	39.14	74.00	15.01	H
17920.800	58.56	-25.55	45.40	38.71	74.00	15.44	H
10363.250	52.69	-33.02	38.10	47.61	68.20	15.51	V
10358.300	52.65	-33.02	38.10	47.57	68.20	15.55	V
5148.420	53.29	-27.34	33.90	46.73	74.00	20.71	V
5122.140	52.94	-27.34	33.90	46.38	74.00	21.06	H

Channel 64

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17979.650	59.07	-25.55	45.40	39.22	74.00	14.93	V
17947.200	59.00	-25.55	45.40	39.15	74.00	15.00	H
10638.800	53.22	-32.88	38.40	47.70	74.00	20.78	V
10638.250	52.82	-32.88	38.40	47.30	74.00	21.18	V
5369.600	53.90	-27.08	34.20	46.78	74.00	20.10	V
5350.080	53.58	-27.08	34.20	46.46	74.00	20.42	V

Channel 100

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17934.550	59.18	-25.55	45.40	39.33	74.00	14.82	V
17919.700	59.13	-25.55	45.40	39.28	74.00	14.87	V
14572.950	52.51	-28.77	41.70	39.58	68.20	15.69	H
14206.100	52.21	-28.86	41.70	39.37	68.20	15.99	V
5453.890	54.40	-27.06	34.30	47.16	74.00	19.60	V
5461.660	53.95	-27.06	34.30	46.71	68.20	14.25	V

802.11ac-HT40

Channel 38

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17938.950	58.88	-25.55	45.40	39.03	74.00	15.12	H
17899.900	58.61	-25.55	45.40	38.76	74.00	15.39	V
14110.950	52.61	-28.86	41.80	39.67	68.20	15.59	V
14668.650	52.60	-28.77	41.40	39.97	68.20	15.60	V
5149.280	56.12	-27.27	34.00	49.39	74.00	17.88	V
5149.220	55.63	-27.27	34.00	48.90	74.00	18.37	V

Channel 62

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17956.550	59.36	-25.55	45.40	39.51	74.00	14.64	V
17904.850	58.84	-25.55	45.40	38.99	74.00	15.16	H
14543.250	52.71	-28.78	41.80	39.69	68.20	15.49	H
14311.150	52.39	-28.97	41.70	39.66	68.20	15.81	H
5350.032	62.69	-27.08	34.20	55.57	74.00	11.31	V
5350.048	62.16	-27.08	34.20	55.04	74.00	11.84	V

Channel 102

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17927.400	58.98	-25.55	45.40	39.13	74.00	15.02	V
17882.300	58.91	-25.55	45.40	39.06	74.00	15.09	H
14098.300	52.91	-28.98	41.80	40.09	68.20	15.29	V
14207.750	52.73	-28.86	41.70	39.89	68.20	15.47	V
5449.435	54.06	-27.06	34.30	46.82	74.00	19.94	V
5469.715	58.35	-27.06	34.30	51.11	68.20	9.85	V

802.11ac-HT80

Channel 42

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17952.700	58.88	-25.55	45.40	39.03	74.00	15.12	H
17963.700	58.63	-25.55	45.40	38.78	74.00	15.37	V
14218.200	52.42	-28.86	41.70	39.58	68.20	15.78	H
14298.500	52.41	-28.97	41.70	39.68	68.20	15.79	H
5112.360	58.15	-27.34	33.90	51.59	74.00	15.85	H
5119.060	57.80	-27.34	33.90	51.24	74.00	16.20	H

Channel 58

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17922.450	59.24	-25.55	45.40	39.39	74.00	14.76	H
17943.900	59.12	-25.55	45.40	39.27	74.00	14.88	V
14202.800	52.55	-28.86	41.70	39.71	68.20	15.65	V
14494.850	52.32	-28.78	41.80	39.30	74.00	21.68	H
5386.192	63.41	-27.08	34.20	56.29	74.00	10.59	V
5386.864	63.24	-27.08	34.20	56.12	74.00	10.76	V

Channel 106

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
17880.650	59.47	-25.55	45.40	39.62	74.00	14.53	V
17963.150	59.21	-25.55	45.40	39.36	74.00	14.79	V
14175.300	53.27	-28.86	41.70	40.43	68.20	14.93	H
14107.100	52.92	-28.98	41.80	40.10	68.20	15.28	V
5446.405	59.29	-27.06	34.30	52.05	74.00	14.71	V
5469.580	59.33	-27.06	34.30	52.09	68.20	8.87	V

Note: we tested all the antennas and only the worst case show in reported.

Conclusion: PASS

Band edge compliance

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.1	P
	5320 MHz	Fig.2	P
	5500 MHz	Fig.3	P
	5700 MHz	Fig.4	P
802.11n HT20	5180 MHz	Fig.5	P
	5320 MHz	Fig.6	P
	5500 MHz	Fig.7	P
	5700 MHz	Fig.8	P
802.11n HT40	5190 MHz	Fig.9	P
	5310 MHz	Fig.10	P
	5510 MHz	Fig.11	P
	5670 MHz	Fig.12	P
802.11ac HT20	5180 MHz	Fig.13	P
	5320 MHz	Fig.14	P
	5500 MHz	Fig.15	P
	5700 MHz	Fig.16	P
802.11ac HT40	5190 MHz	Fig.17	P
	5310 MHz	Fig.18	P
	5510 MHz	Fig.19	P
	5670 MHz	Fig.20	P
802.11ac HT80	5210MHz	Fig.21	P
	5290MHz	Fig.22	P
	5530MHz	Fig.23	P
	5610MHz	Fig.24	P

Note: we tested all the antennas and only the worst case show in reported.

Conclusion: PASS

Test graphs as below:

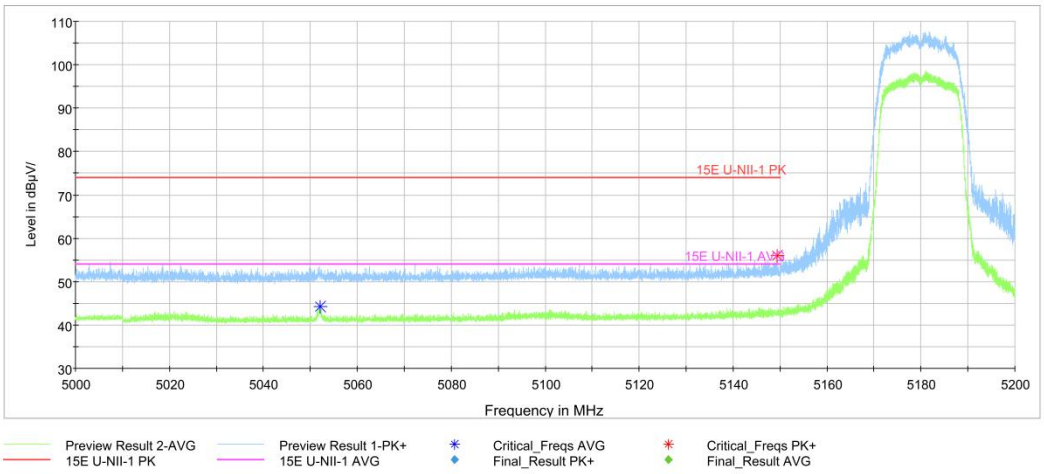


Fig. 1 Band Edges (802.11a Ch36, 5180MHz)

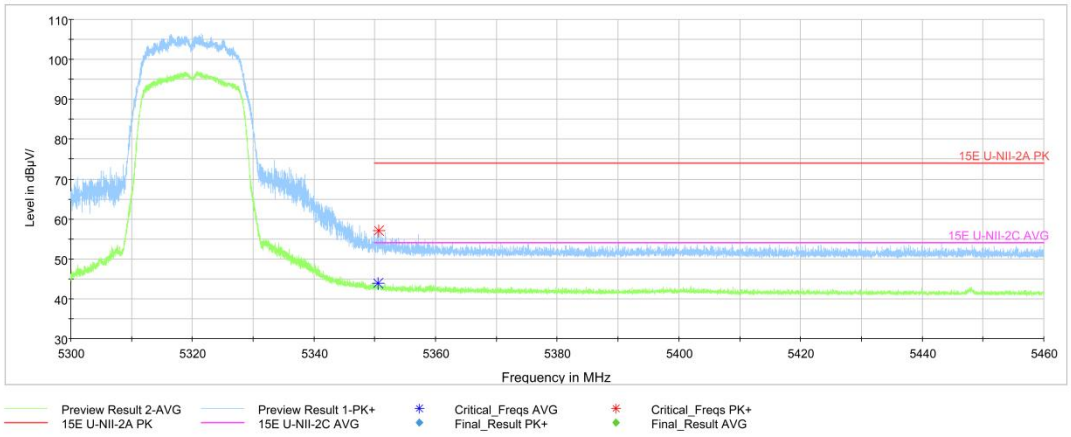


Fig. 2 Band Edges (802.11a Ch64, 5320MHz)

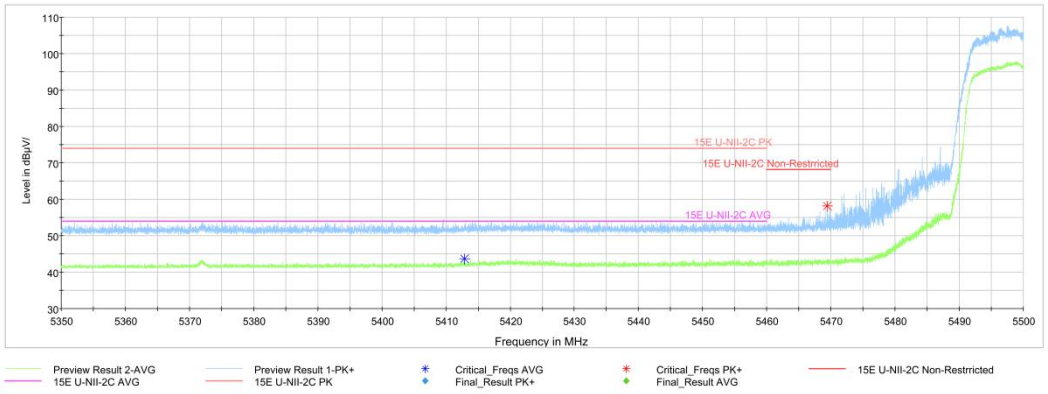


Fig. 3 Band Edges (802.11a Ch100, 5500MHz)

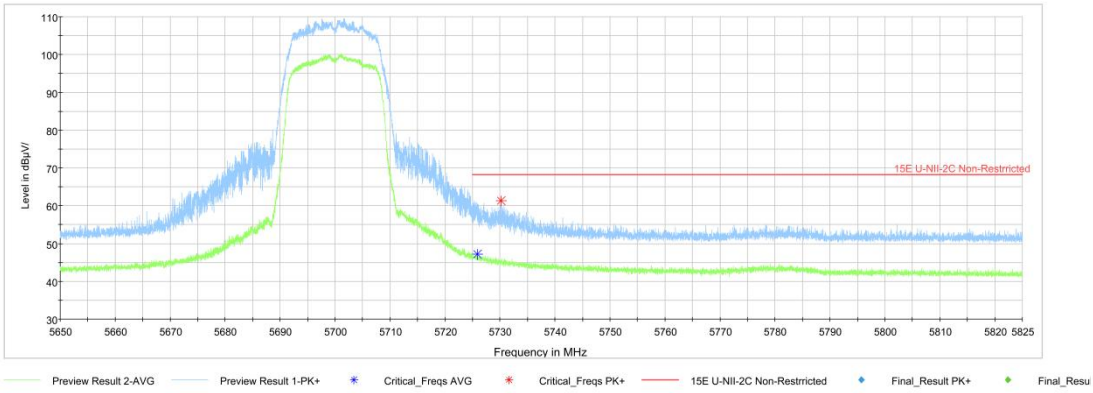


Fig. 4 Band Edges (802.11a Ch140, 5700MHz)

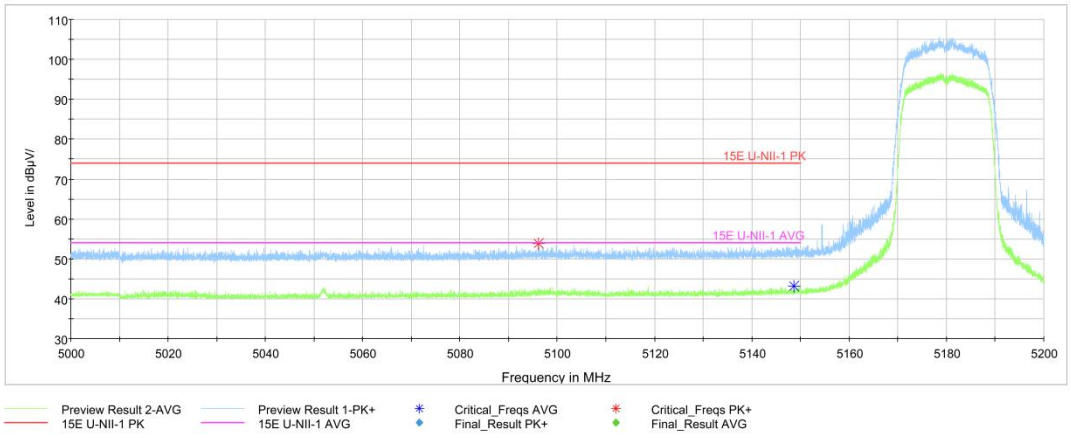


Fig. 5 Band Edges (802.11n-HT20 Ch36, 5180MHz)

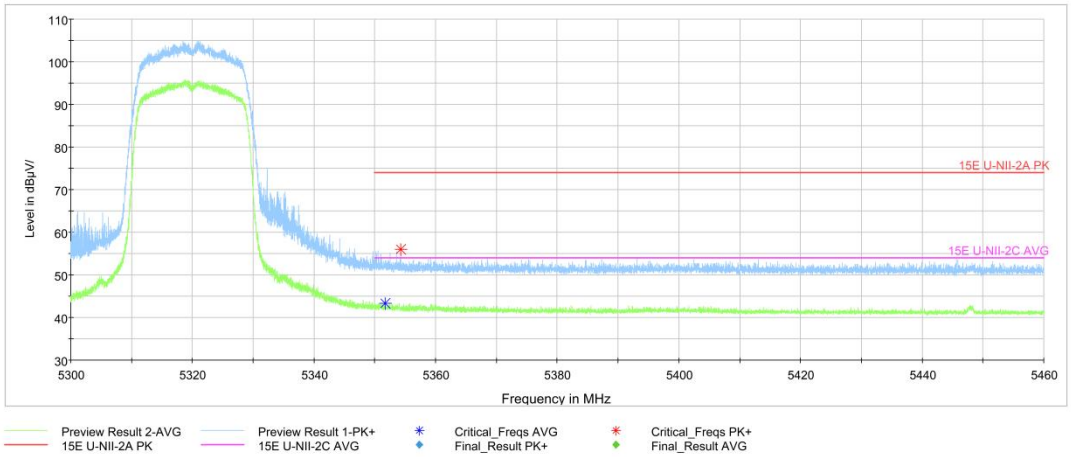


Fig. 6 Band Edges (802.11n-HT20 Ch64, 5320MHz)

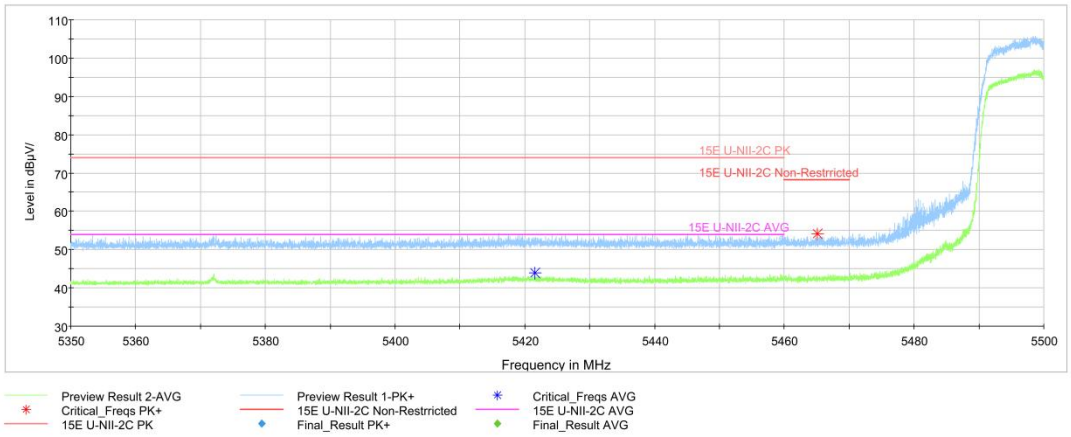


Fig. 7 Band Edges (802.11n-HT20 Ch100, 5500MHz)

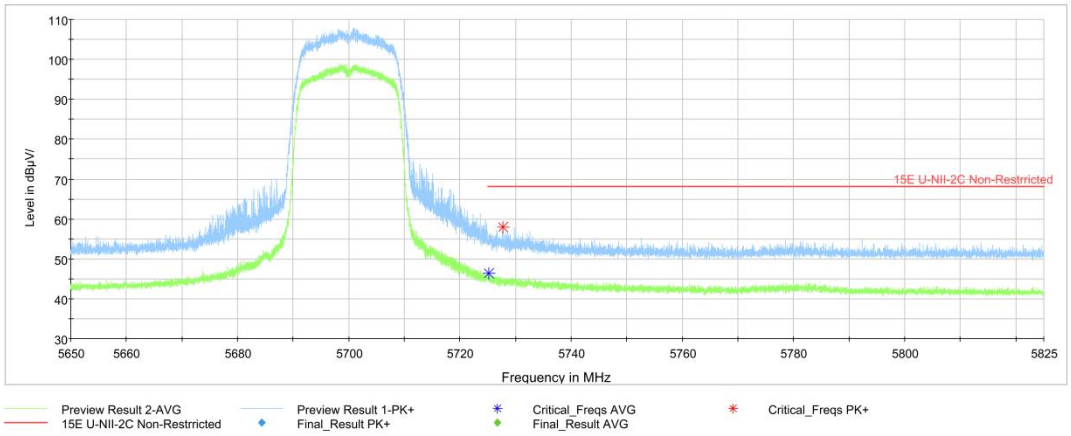


Fig. 8 Band Edges (802.11n-HT20 Ch140, 5700MHz)

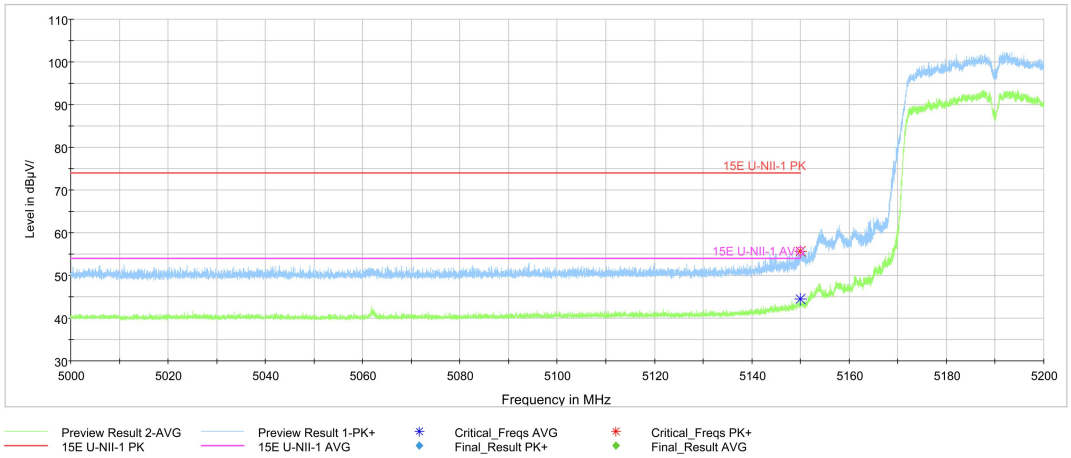


Fig. 9 Band Edges (802.11n-HT40 Ch38, 5190MHz)

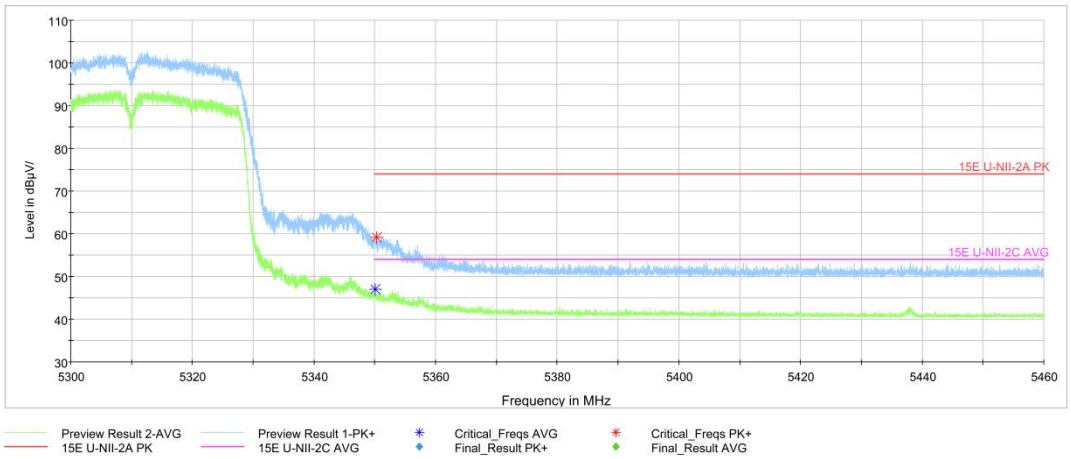


Fig. 10 Band Edges (802.11n-HT40 Ch62, 5310MHz)

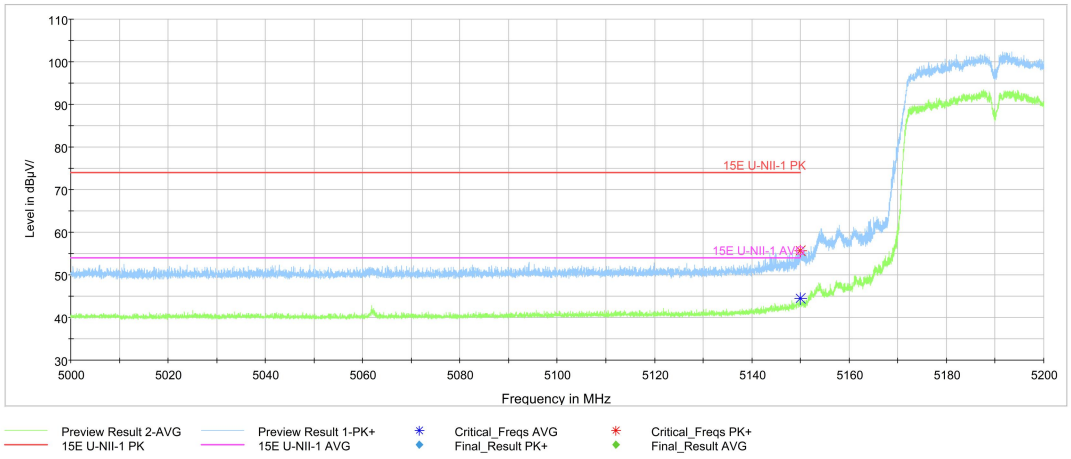


Fig. 11 Band Edges (802.11n-HT40 Ch102, 5510MHz)

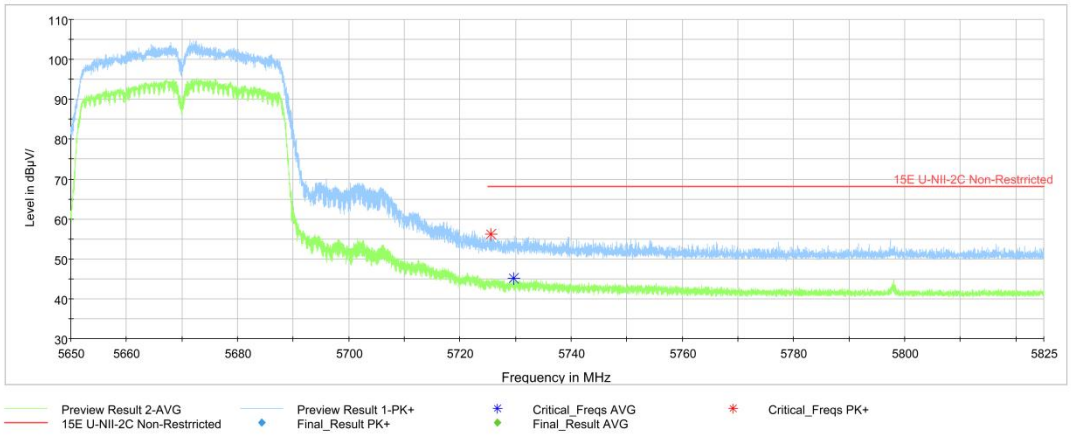


Fig. 12 Band Edges (802.11n-HT40 Ch134, 5670MHz)

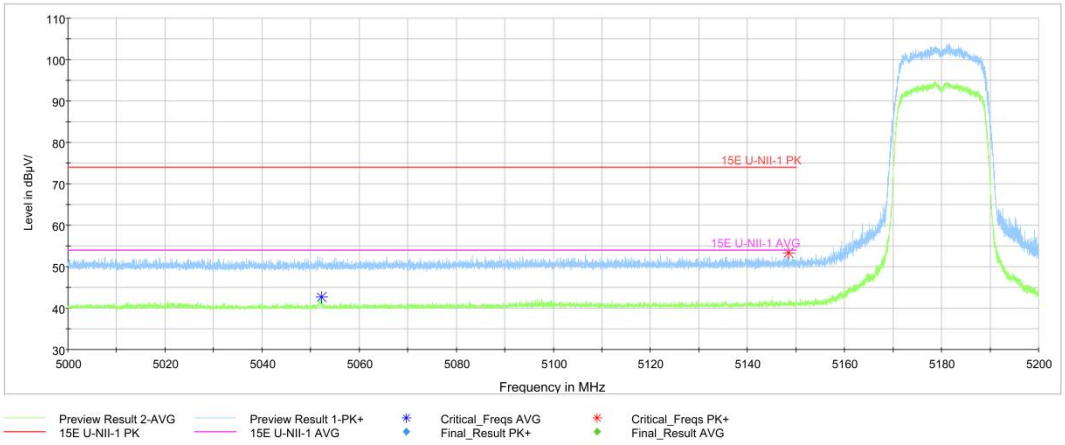


Fig. 13 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

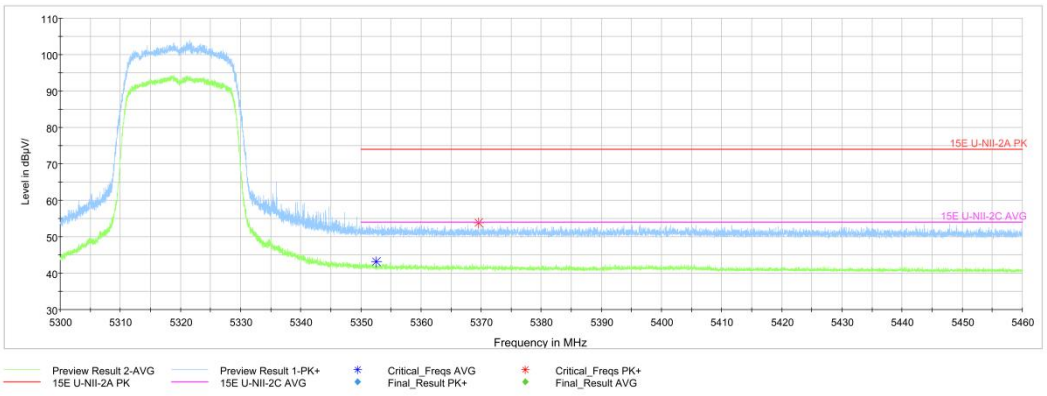


Fig. 14 Band Edges (802.11ac-HT20 Ch64, 5320MHz)

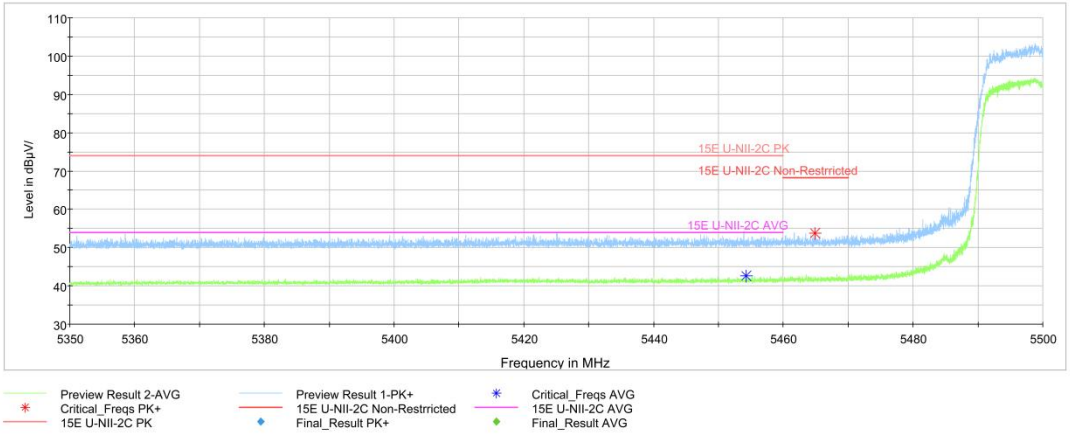


Fig. 15 Band Edges (802.11ac-HT20 Ch100, 5500MHz)

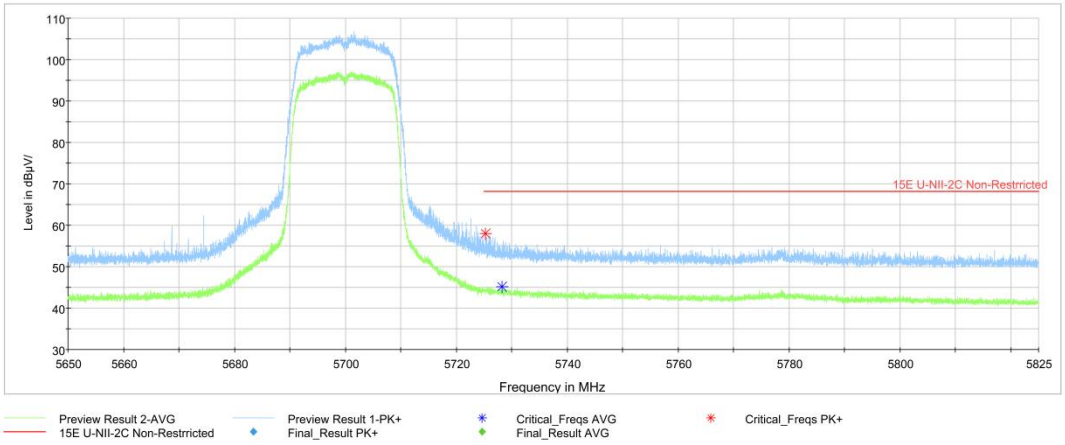


Fig. 16 Band Edges (802.11ac-HT20 Ch140, 5700MHz)

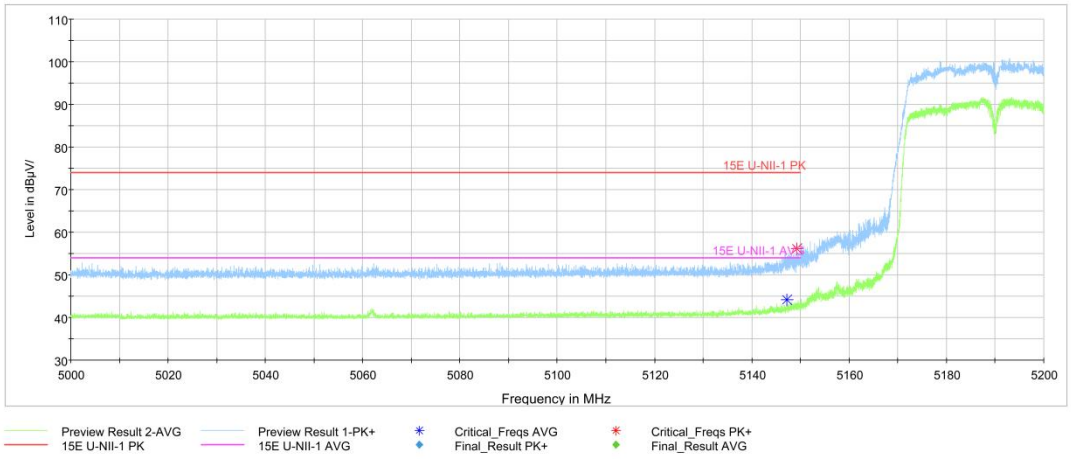


Fig. 17 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

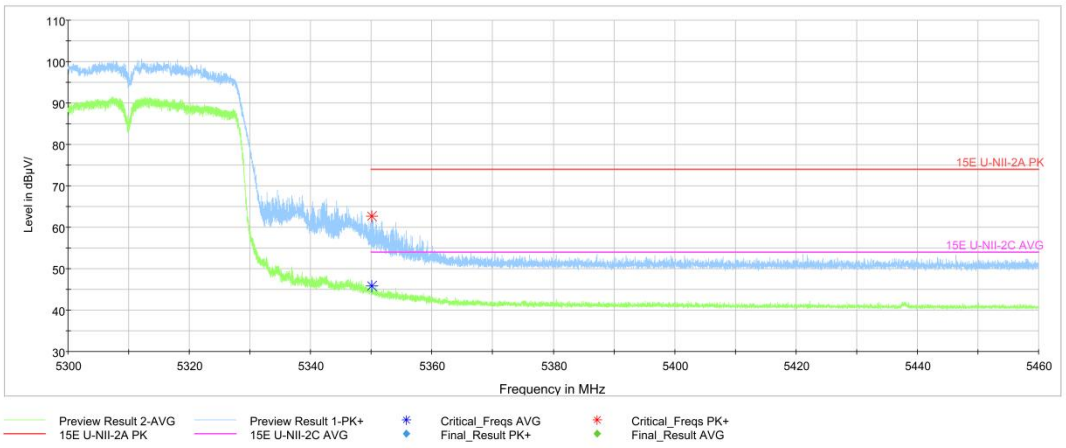


Fig. 18 Band Edges (802.11ac-HT40 Ch62, 5310MHz)

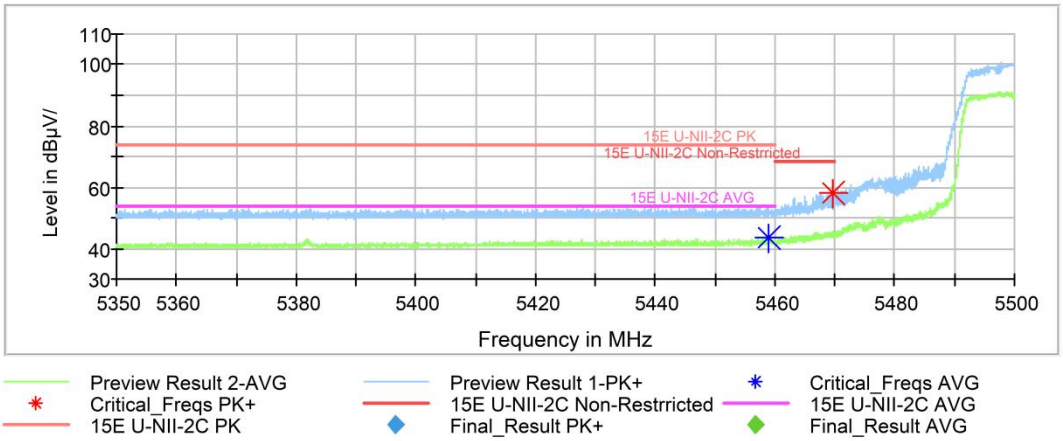


Fig. 19 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

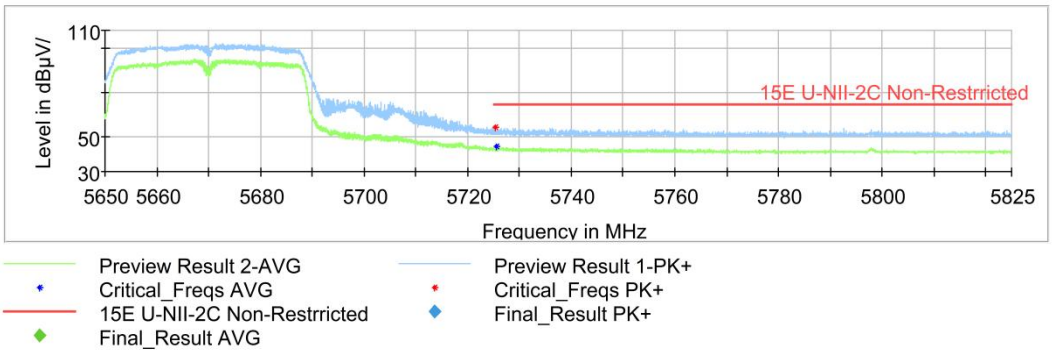


Fig. 20 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

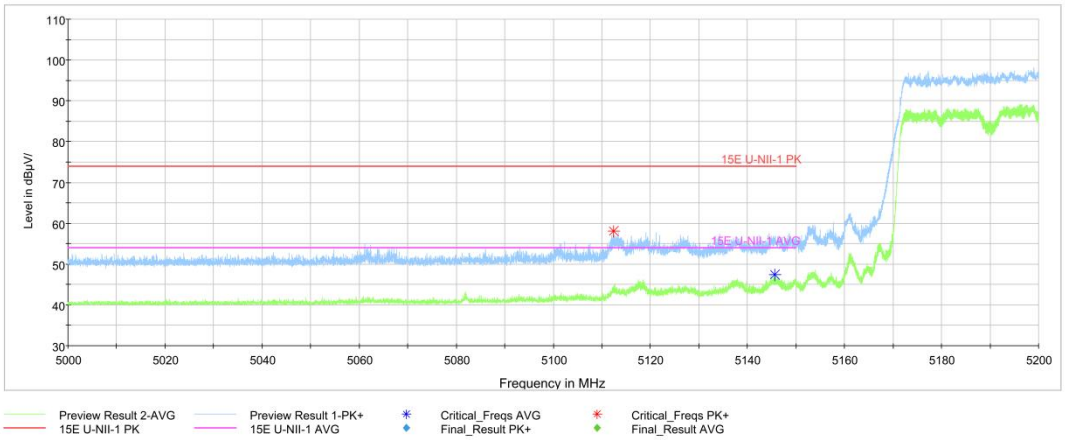


Fig. 21 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

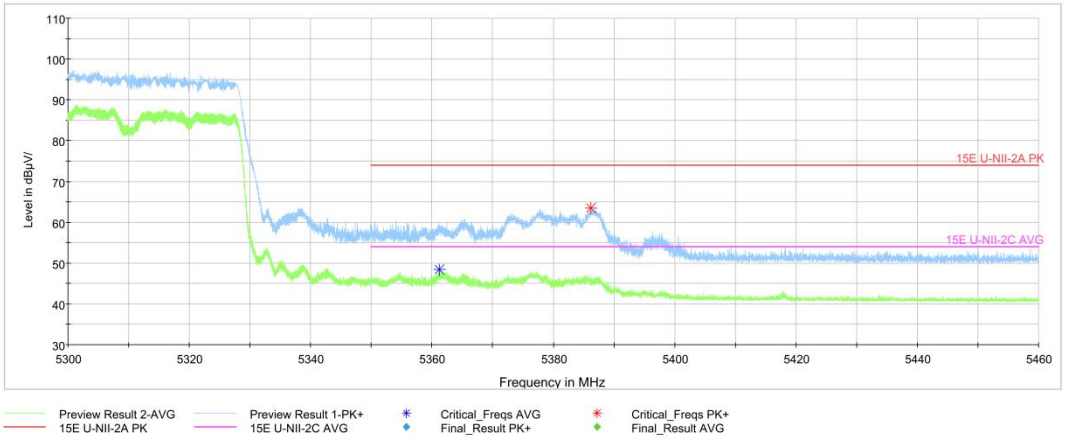


Fig. 22 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

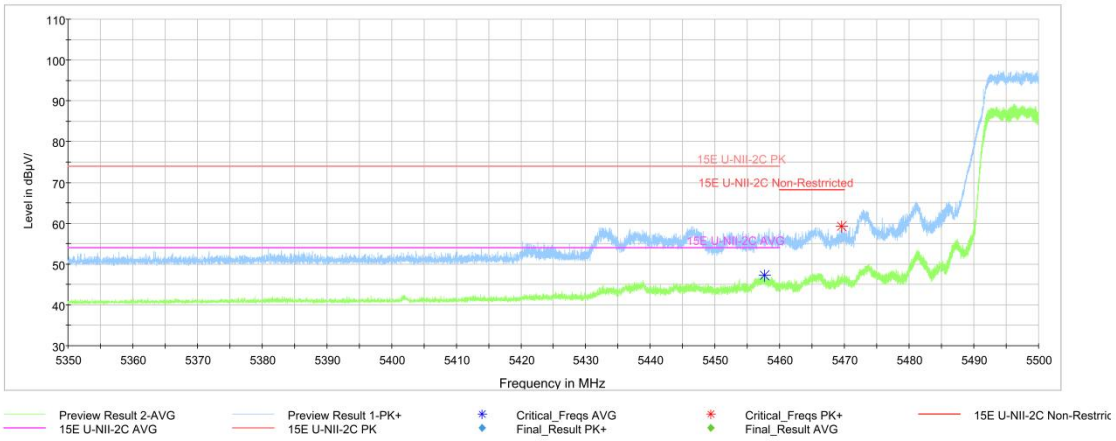


Fig. 23 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

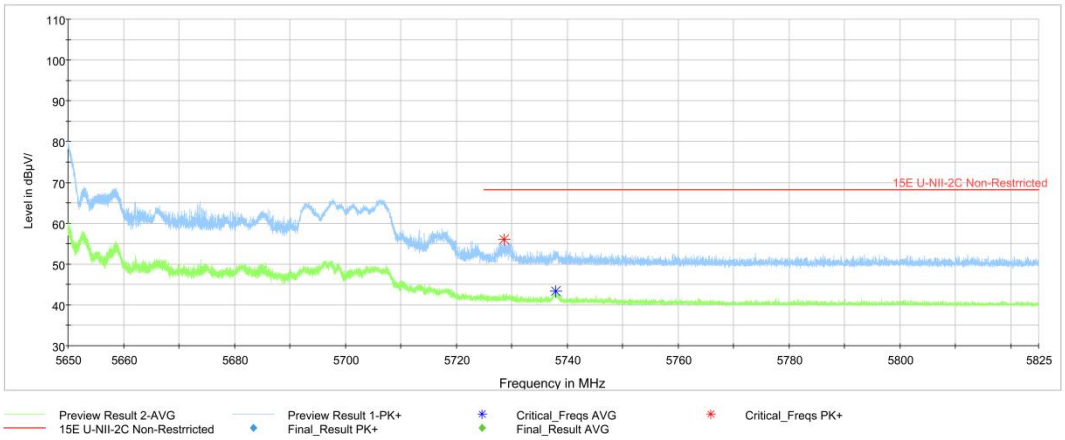


Fig. 24 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

A.6. AC Powerline Conducted Emission (150kHz- 30MHz)

A.6.1 Summary

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section

A.6.2 Method of Measurement

See Clause 6.2 of ANSI C63.10 specifically.

See Clause 4 and Clause 5 of ANSI C63.10 generally.

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

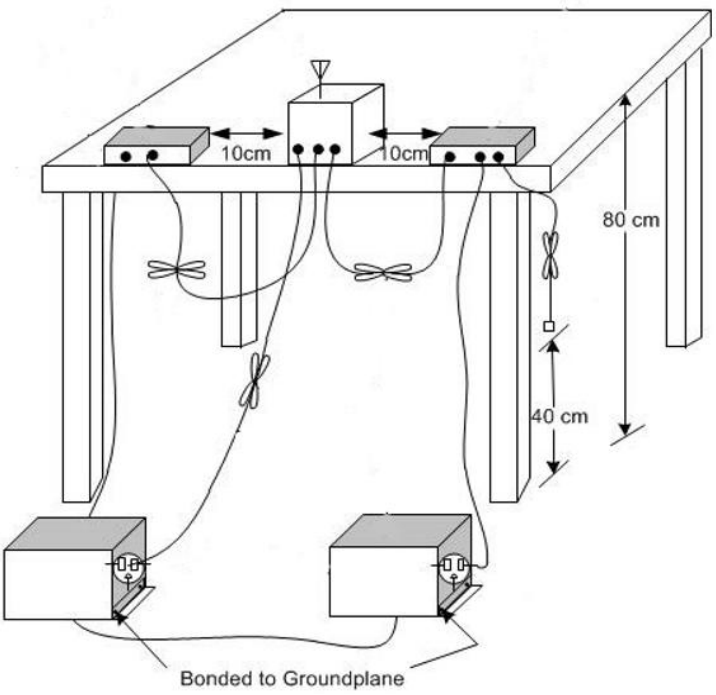
The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/IF bandwidth
0.15-30	9kHz

A.6.3 Test Condition

Voltage（V）	Frequency（Hz）
120	60

A.6.4 Test setup



Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.25	Fig.26	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.25	Fig.26	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: PASS

Test graphs as below:

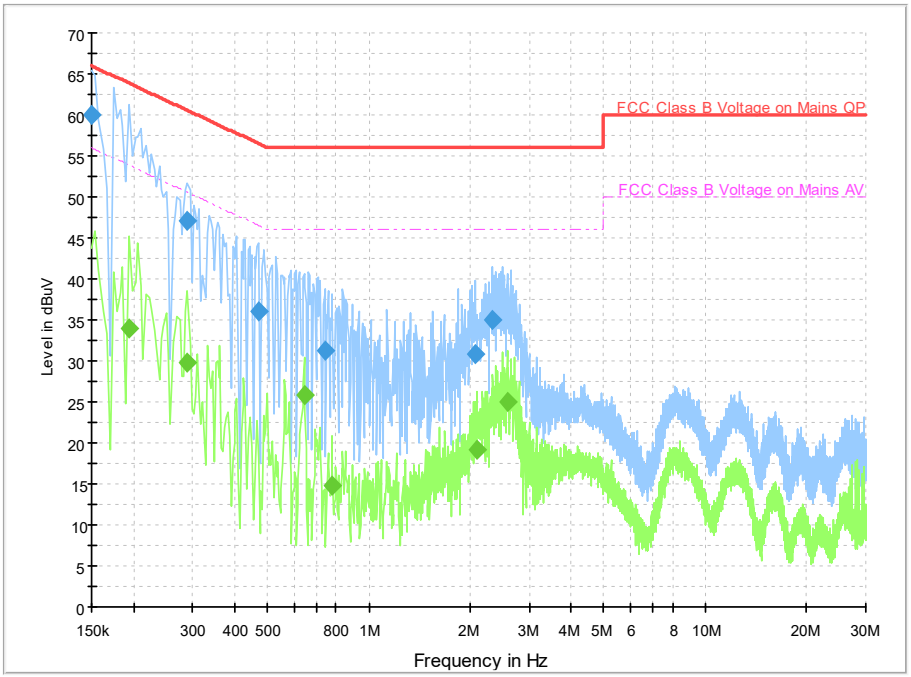


Fig.25 Conducted Emission(802.11a, Ch36, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.150000	60.0	2000.0	9.000	On	L1	20.1	6.0	66.0	
0.290000	47.0	2000.0	9.000	On	L1	19.9	13.5	60.5	
0.470000	36.1	2000.0	9.000	On	N	19.9	20.4	56.5	
0.742000	31.3	2000.0	9.000	On	N	19.8	24.7	56.0	
2.074000	30.9	2000.0	9.000	On	L1	19.8	25.1	56.0	
2.330000	35.0	2000.0	9.000	On	N	19.6	21.0	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.194000	33.9	2000.0	9.000	On	L1	19.8	20.0	53.9	
0.290000	29.8	2000.0	9.000	On	L1	19.9	20.7	50.5	
0.642000	25.9	2000.0	9.000	On	L1	20.0	20.1	46.0	
0.778000	14.8	2000.0	9.000	On	L1	19.9	31.2	46.0	
2.094000	19.2	2000.0	9.000	On	L1	19.8	26.8	46.0	
2.574000	24.9	2000.0	9.000	On	N	19.6	21.1	46.0	

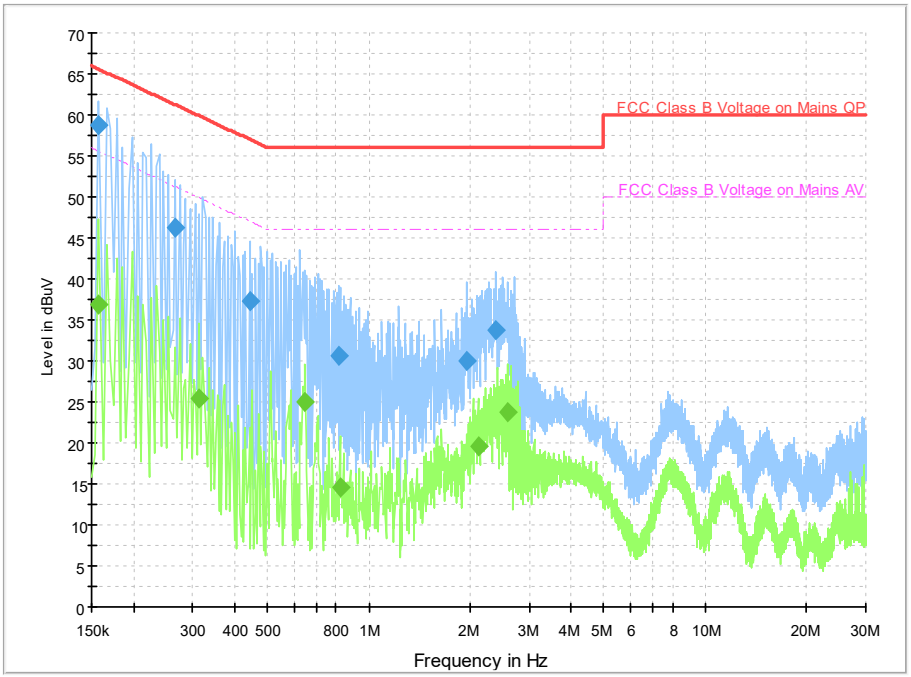


Fig.26 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.158000	58.7	2000.0	9.000	On	N	19.9	6.8	65.6	
0.266000	46.2	2000.0	9.000	On	N	19.8	15.1	61.2	
0.442000	37.3	2000.0	9.000	On	N	19.9	19.7	57.0	
0.810000	30.7	2000.0	9.000	On	N	19.8	25.3	56.0	
1.950000	30.1	2000.0	9.000	On	N	19.6	25.9	56.0	
2.386000	33.7	2000.0	9.000	On	N	19.6	22.3	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.158000	37.0	2000.0	9.000	On	N	19.9	18.6	55.6	
0.314000	25.3	2000.0	9.000	On	L1	19.9	24.6	49.9	
0.646000	25.1	2000.0	9.000	On	L1	20.0	20.9	46.0	
0.822000	14.5	2000.0	9.000	On	L1	19.9	31.5	46.0	
2.110000	19.7	2000.0	9.000	On	L1	19.8	26.3	46.0	
2.582000	23.8	2000.0	9.000	On	N	19.6	22.2	46.0	

A.7. 99% Occupied bandwidth

Method of Measurement: See ANSI C63.10-2013-clause 12.4.2.

a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.

c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.

d) Step a) through step c) might require iteration to adjust within the specified range.

e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.

f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% ofthe total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.

h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

Measurement Uncertainty:

Measurement Uncertainty	60.80Hz

EUT ID: UT01a

Measurement Result:

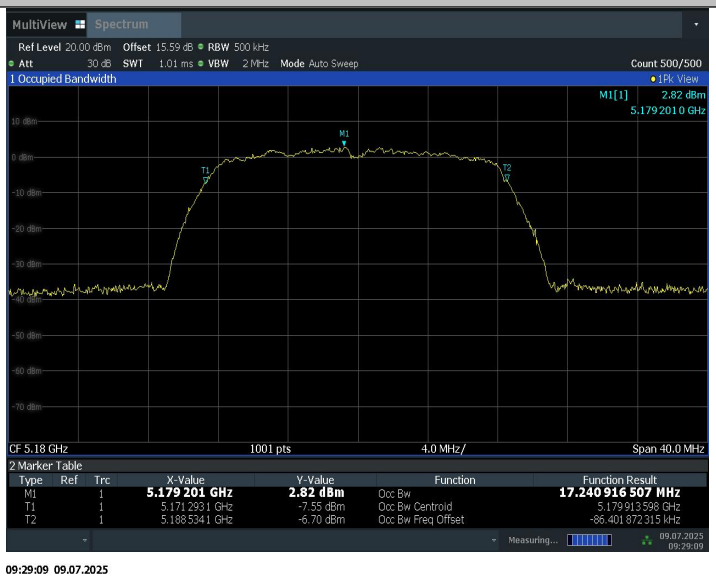
TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	WIFI0	5180	17.241	5171.2931	5188.5341	---	---
	WIFI0	5200	17.165	5191.3151	5208.4797	---	---
	WIFI0	5240	17.145	5231.3609	5248.5057	---	---
11N40SISO	WIFI0	5190	36.126	5171.9073	5208.0330	---	---
	WIFI0	5230	36.078	5211.9607	5248.0383	---	---
11AC20SISO	WIFI0	5180	18.031	5171.0137	5189.0449	---	---
	WIFI0	5200	17.972	5190.9899	5208.9620	---	---
	WIFI0	5240	17.915	5231.0401	5248.9551	---	---
11AC80SISO	WIFI0	5210	75.690	5172.0928	5247.7828	---	---
11N20MIMO	WIFI0	5180	17.907	5171.0922	5188.9989	---	---
	WIFI1	5180	17.638	5171.2159	5188.8537	---	---

	WIFI0	5200	17.972	5191.0142	5208.9866	---	---
	WIFI1	5200	17.578	5191.3324	5208.9105	---	---
	WIFI0	5240	17.906	5231.0438	5248.9495	---	---
	WIFI1	5240	17.646	5231.2419	5248.8879	---	---
11N40MIMO	WIFI0	5190	35.825	5171.9851	5207.8096	---	---
	WIFI1	5190	36.407	5171.8154	5208.2220	---	---
	WIFI0	5230	36.070	5212.0098	5248.0800	---	---
	WIFI1	5230	36.666	5211.5921	5248.2583	---	---
11AC80MIMO	WIFI0	5210	75.819	5172.1129	5247.9321	---	---
	WIFI1	5210	75.288	5172.3696	5247.6581	---	---

Note:SISO:All results have been tested, only shows the worst case

Test graphs as below:

11A_WIFI0_5180



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11A_WIFI0_5200

09:30:22 09.07.2025

11A_WIFI0_5240

09:33:57 09.07.2025

11N40SISO_WIFI0_5190

14:00:22 09.07.2025

11N40SISO_WIFI0_5230

14:02:05 09.07.2025

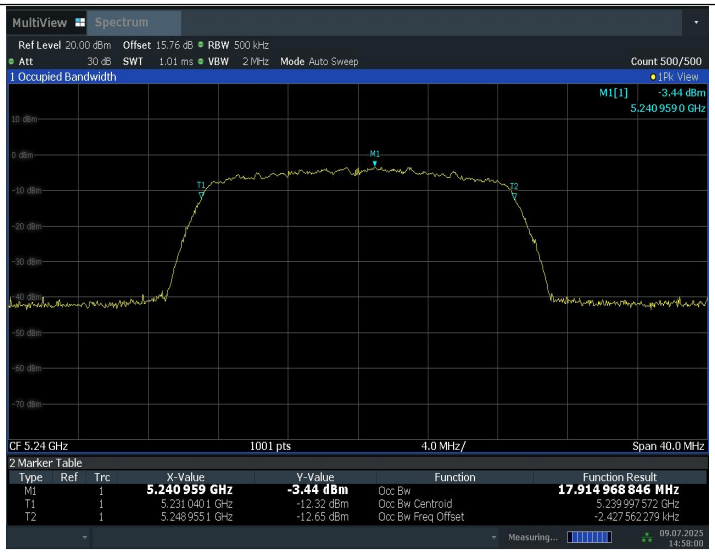
11AC20SISO_WIFI0_5180

14:52:50 09.07.2025

11AC20SISO_WIFI0_5200

14:56:06 09.07.2025

11AC20SISO_WIFI0_5240



14:58:01 09.07.2025

11AC80SISO_WIFI0_5210

16:51:58 09.07.2025

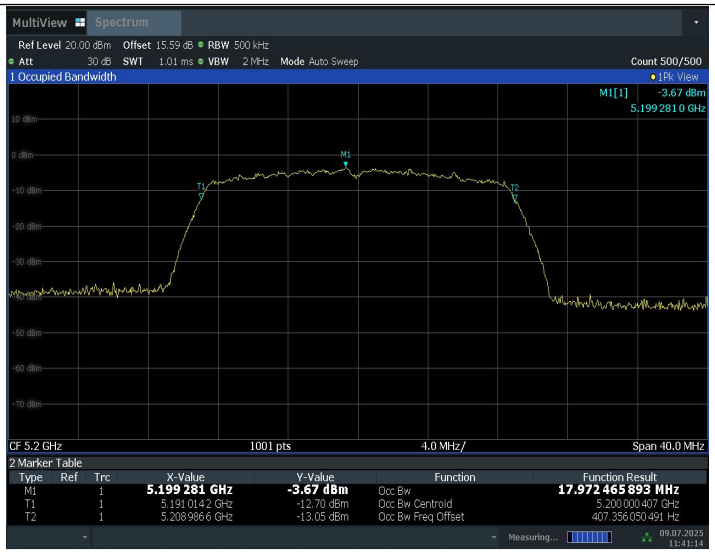
11N20MIMO_WIFI0_5180

11:35:35 09.07.2025

11N20MIMO_WIFI1_5180

11:36:32 09.07.2025

11N20MIMO_WIFI0_5200



11:41:15 09.07.2025

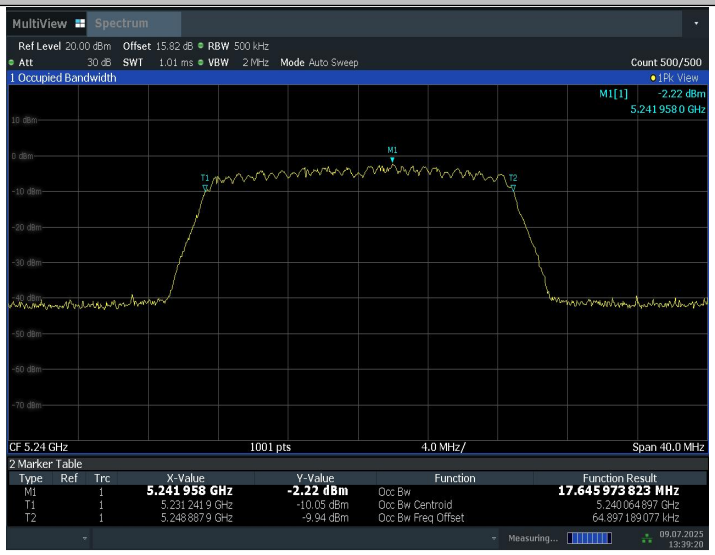
11N20MIMO_WIFI1_5200

11:42:15 09.07.2025

11N20MIMO_WIFI0_5240

13:38:22 09.07.2025

11N20MIMO_WIFI1_5240



13:39:21 09.07.2025

11N40MIMO_WIFI0_5190