

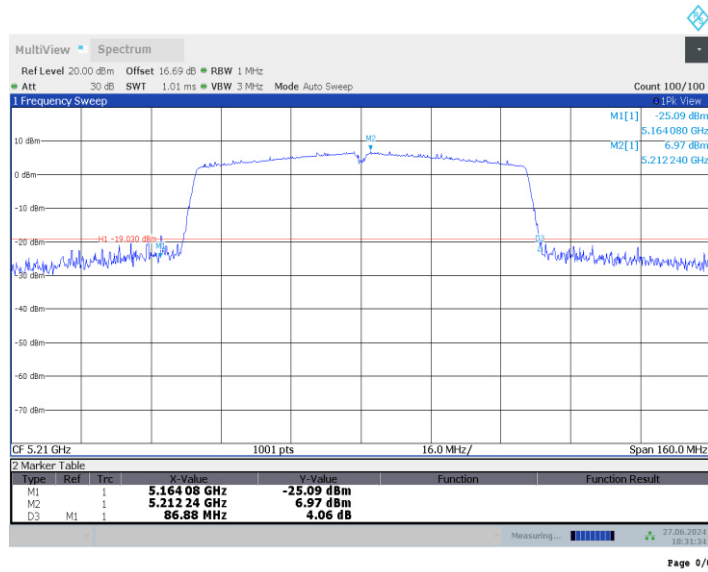


Fig.29 26dB Emission Bandwidth (802. 11ac-VHT80, 5210MHz)

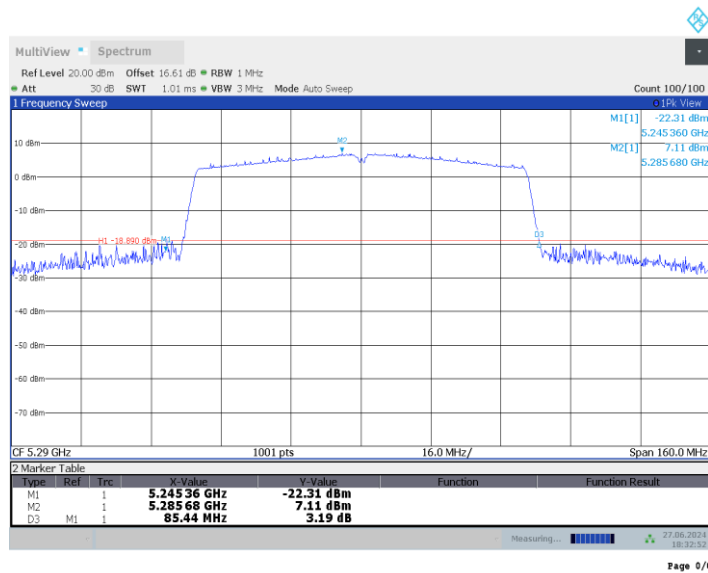


Fig.30 26dB Emission Bandwidth (802. 11ac-VHT80, 5290MHz)

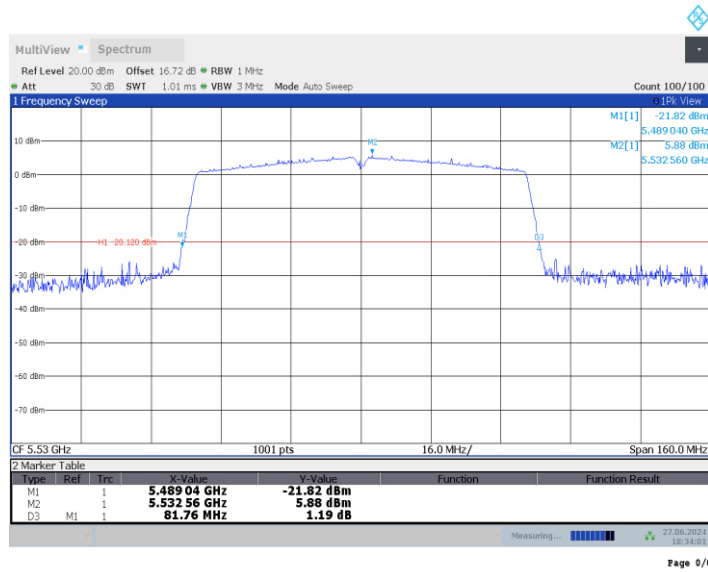


Fig.31 26dB Emission Bandwidth (802. 11ac-VHT80, 5530MHz)

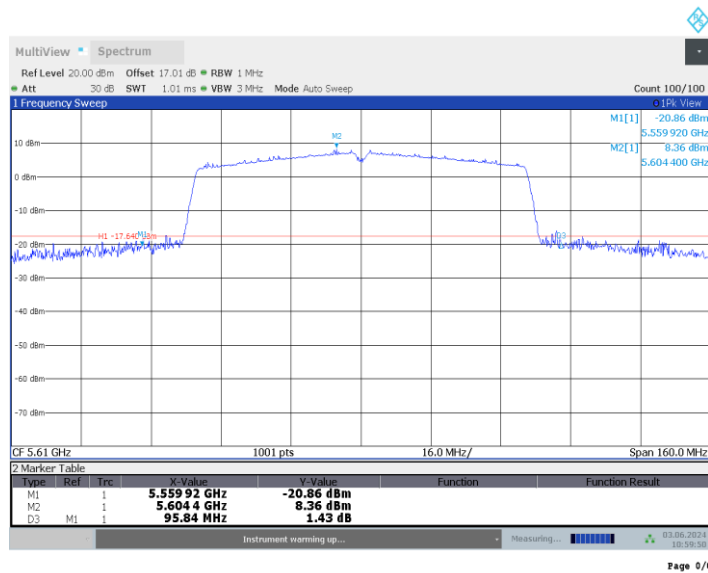


Fig.32 26dB Emission Bandwidth (802. 11ac-VHT80, 5610MHz)

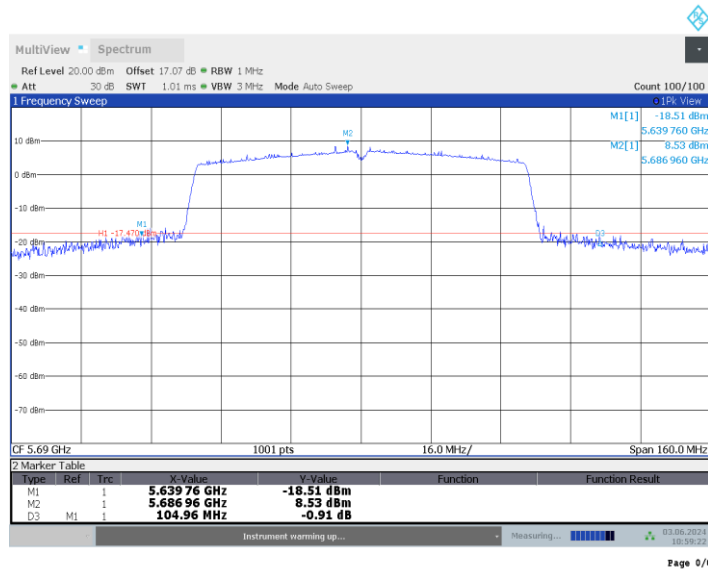


Fig.33 26dB Emission Bandwidth (802. 11ac-VHT80, 5690MHz)

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	<p>(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.</p> <p>(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.</p> <p>(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.</p>

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(μ V/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 (μ V/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

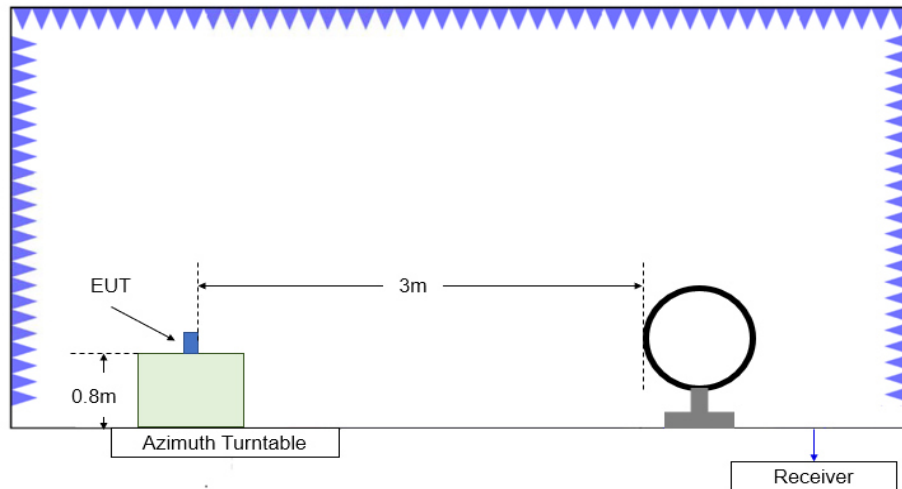


Figure A.5.1. Test Site Diagram (9kHz-30MHz)

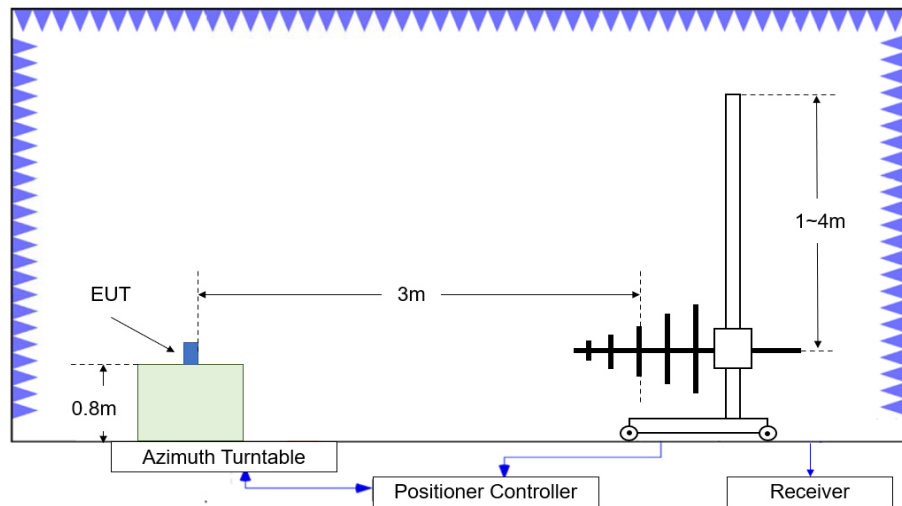


Figure A.5.2. Test Site Diagram (30MHz-1GHz)

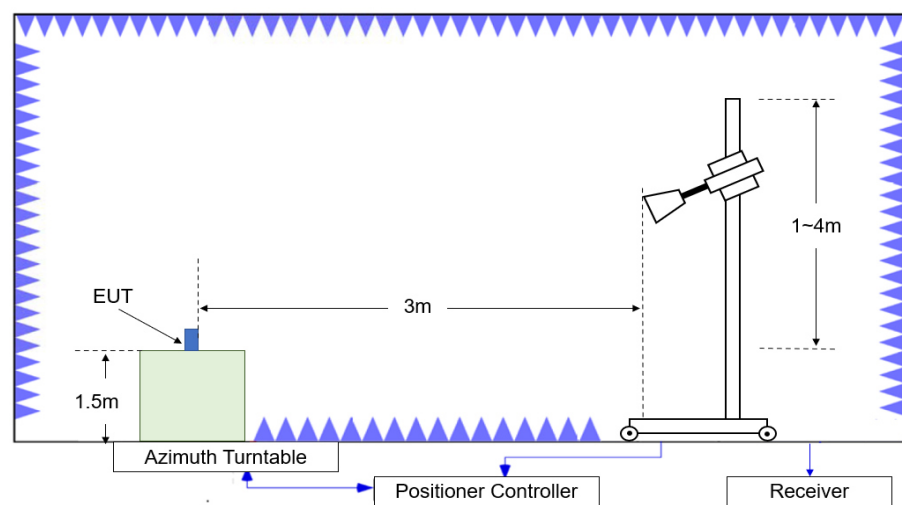


Figure A.5.3. Test Site Diagram (1GHz-40GHz)

A.5.3 Test Procedures

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10 and 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 (dB μ V/m) = $P_{\text{measurement}}$ (dB μ V) + Cable Loss (dB) + Antenna Factor (dB/m)

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

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

$$E = \text{EIRP} - 20 \log(D) + 104.77$$

Where:

E is the field strength in dB μ V/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 10th harmonic of highest fundamental frequency or 40GHz, whichever is lower.
7. No spurious emissions were detected within 20dB of the limit below 30MHz. OFS and semi-chamber comparison testing had been performed and the result came out very similar. (KDB 414788)
8. The low/mid/high channels of UNII-1, UNII-2A and UNII-2C of all working mode with different bandwidths were all tested, only the worst ones were reported.

Measurement Results:
Average Results:
802.11a
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)
5149.900	45.27	-24.19	33.90	35.55	54.00	8.73	V
5149.950	45.30	-24.19	33.90	35.58	54.00	8.70	V
11775.600	34.59	-29.92	38.65	25.86	54.00	19.41	H
15540.000	36.53	-26.44	40.44	22.53	54.00	17.47	V
17830.000	38.26	-22.99	40.50	20.74	54.00	15.74	V
17936.400	37.98	-23.49	40.54	20.94	54.00	16.02	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)
5350.100	48.00	-24.32	34.30	38.02	54.00	6.00	V
5350.200	47.93	-24.32	34.30	37.95	54.00	6.07	V
12223.600	35.24	-28.99	38.75	25.48	54.00	18.76	H
15960.000	38.07	-25.19	40.94	22.32	54.00	15.93	H
17829.600	38.67	-23.01	40.50	21.18	54.00	15.33	V
17939.600	38.38	-23.48	40.54	21.32	54.00	15.62	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)
5457.350	44.20	-23.33	34.19	33.35	54.00	9.80	V
5459.550	44.22	-23.30	34.18	33.33	54.00	9.78	V
11000.000	33.17	-31.09	37.60	26.67	54.00	20.83	H
16152.000	37.87	-24.98	40.85	21.99	54.00	16.13	V
17830.000	38.99	-22.99	40.50	21.47	54.00	15.01	V
17842.800	38.82	-23.35	40.50	21.67	54.00	15.18	V

Channel 144

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)
5367.750	43.46	-23.95	34.26	33.14	54.00	10.54	V
5457.450	44.05	-23.33	34.19	33.19	54.00	9.95	V
11440.000	33.80	-29.88	37.82	25.86	54.00	20.20	H
16007.060	38.25	-25.18	40.90	22.53	54.00	15.75	V
17830.000	38.69	-22.99	40.50	21.17	54.00	15.31	V
17937.600	38.39	-23.49	40.54	21.34	54.00	15.61	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)
5146.000	44.26	-24.19	33.89	34.56	54.00	9.74	V
5148.350	44.61	-24.19	33.90	34.90	54.00	9.39	V
12384.400	35.10	-28.67	38.60	25.17	54.00	18.90	V
15540.000	36.86	-26.44	40.44	22.85	54.00	17.14	V
17830.000	38.50	-22.99	40.50	20.98	54.00	15.50	V
17936.400	38.18	-23.49	40.54	21.14	54.00	15.82	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)
5350.050	47.90	-24.32	34.30	37.92	54.00	6.10	V
5350.100	47.90	-24.32	34.30	37.92	54.00	6.10	V
12227.600	35.26	-28.82	38.74	25.34	54.00	18.74	V
15960.000	38.08	-25.19	40.94	22.33	54.00	15.92	V
17829.200	38.68	-23.04	40.50	21.22	54.00	15.32	V
17937.200	38.51	-23.49	40.54	21.46	54.00	15.49	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)
5456.900	44.19	-23.34	34.19	33.34	54.00	9.81	V
5458.600	44.18	-23.31	34.18	33.31	54.00	9.82	V
11000.000	33.09	-31.09	37.60	26.58	54.00	20.91	H
16018.000	38.35	-24.96	40.90	22.41	54.00	15.65	V
17829.600	38.97	-23.01	40.50	21.48	54.00	15.03	V
17848.400	38.66	-23.56	40.50	21.72	54.00	15.34	H

Channel 144

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)
5366.950	43.44	-23.96	34.27	33.14	54.00	10.56	V
5455.500	44.01	-23.36	34.19	33.18	54.00	9.99	V
11440.000	33.65	-29.88	37.82	25.71	54.00	20.35	V
16014.400	38.47	-25.02	40.90	22.59	54.00	15.53	V
17827.000	38.53	-23.19	40.50	21.22	54.00	15.47	H
17935.200	38.40	-23.50	40.54	21.36	54.00	15.60	H

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)
5139.200	44.84	-24.20	33.88	35.15	54.00	9.16	V
5142.600	45.40	-24.20	33.89	35.71	54.00	8.60	V
12226.000	35.10	-28.89	38.75	25.24	54.00	18.90	V
15570.000	36.52	-26.29	40.47	22.34	54.00	17.48	V
17828.800	38.48	-23.07	40.50	21.05	54.00	15.52	H
17936.800	38.30	-23.49	40.54	21.25	54.00	15.70	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)
5350.300	45.16	-24.32	34.30	35.18	54.00	8.84	V
5352.300	44.85	-24.27	34.30	34.82	54.00	9.15	V
10620.000	32.10	-31.47	37.44	26.14	54.00	21.90	V
15930.000	37.41	-25.72	40.97	22.16	54.00	16.59	H
17832.800	38.77	-23.06	40.50	21.33	54.00	15.23	H
17886.800	38.53	-23.42	40.50	21.45	54.00	15.47	H

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)
5455.350	44.19	-23.36	34.19	33.36	54.00	9.81	V
5459.100	44.23	-23.30	34.18	33.35	54.00	9.77	V
11020.000	33.01	-30.81	37.60	26.22	54.00	20.99	H
16009.200	38.20	-25.12	40.90	22.42	54.00	15.80	V
17830.000	38.44	-22.99	40.50	20.92	54.00	15.56	V
17936.000	38.23	-23.49	40.54	21.19	54.00	15.77	H

Channel 142

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)
5367.750	43.42	-23.95	34.26	33.11	54.00	10.58	V
5454.950	44.01	-23.36	34.19	33.19	54.00	9.99	V
11420.000	33.83	-30.38	37.76	26.44	54.00	20.17	V
16014.800	38.44	-25.01	40.90	22.55	54.00	15.56	V
17826.800	38.29	-23.20	40.50	20.99	54.00	15.71	H
17842.000	38.27	-23.32	40.50	21.09	54.00	15.73	H

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)
5147.300	43.84	-24.19	33.89	34.13	54.00	10.16	V
5149.350	44.00	-24.19	33.90	34.29	54.00	10.00	V
12231.600	34.95	-28.76	38.74	24.98	54.00	19.05	V
15540.000	36.83	-26.44	40.44	22.83	54.00	17.17	V
17829.200	38.39	-23.04	40.50	20.93	54.00	15.61	V
17936.000	38.19	-23.49	40.54	21.15	54.00	15.81	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)
5350.300	44.97	-24.32	34.30	34.98	54.00	9.03	V
5350.650	44.93	-24.31	34.30	34.94	54.00	9.07	V
12385.600	35.44	-28.70	38.60	25.54	54.00	18.56	V
15960.000	37.65	-25.19	40.94	21.90	54.00	16.35	V
17831.200	38.84	-23.02	40.50	21.36	54.00	15.16	V
17935.000	38.62	-23.50	40.54	21.58	54.00	15.38	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)
5452.950	44.11	-23.39	34.19	33.31	54.00	9.89	V
5457.050	44.11	-23.33	34.19	33.26	54.00	9.89	V
11000.000	33.13	-31.09	37.60	26.62	54.00	20.87	H
16110.000	38.22	-24.89	40.89	22.22	54.00	15.78	V
17826.800	38.77	-23.20	40.50	21.48	54.00	15.23	V
17839.200	38.85	-23.23	40.50	21.58	54.00	15.15	H

Channel 144

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)
5366.950	43.48	-23.96	34.27	33.17	54.00	10.52	V
5459.000	44.11	-23.30	34.18	33.23	54.00	9.89	V
12104.000	34.87	-29.49	38.80	25.56	54.00	19.13	V
16015.200	38.49	-25.01	40.90	22.60	54.00	15.51	H
17829.600	38.39	-23.01	40.50	20.91	54.00	15.61	H
17937.200	38.31	-23.49	40.54	21.26	54.00	15.69	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)
5138.700	45.03	-24.19	33.88	35.34	54.00	8.97	V
5142.450	45.71	-24.20	33.88	36.02	54.00	8.29	V
12387.600	35.17	-28.75	38.60	25.32	54.00	18.83	V
15570.000	36.70	-26.29	40.47	22.53	54.00	17.30	H
17829.200	38.57	-23.04	40.50	21.11	54.00	15.43	H
17935.200	38.37	-23.50	40.54	21.32	54.00	15.63	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)
5351.650	44.83	-24.29	34.30	34.82	54.00	9.17	V
5357.550	44.49	-24.15	34.28	34.35	54.00	9.51	V
10620.000	32.20	-31.47	37.44	26.23	54.00	21.80	V
15930.000	37.77	-25.72	40.97	22.52	54.00	16.23	H
17831.600	38.72	-23.03	40.50	21.25	54.00	15.28	V
17844.800	38.71	-23.42	40.50	21.64	54.00	15.29	H

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)
5455.900	44.31	-23.35	34.19	33.47	54.00	9.69	V
5458.450	44.40	-23.31	34.18	33.53	54.00	9.60	V
11020.000	33.14	-30.81	37.60	26.35	54.00	20.86	H
16015.600	38.48	-25.00	40.90	22.57	54.00	15.52	V
17831.200	38.54	-23.02	40.50	21.06	54.00	15.46	H
17935.200	38.55	-23.50	40.54	21.51	54.00	15.45	H

Channel 142

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)
5366.950	43.46	-23.96	34.27	33.16	54.00	10.54	V
5457.950	44.14	-23.32	34.18	33.27	54.00	9.86	V
11420.000	33.77	-30.38	37.76	26.39	54.00	20.23	H
16018.800	38.54	-24.95	40.90	22.59	54.00	15.46	H
17826.800	38.30	-23.20	40.50	21.01	54.00	15.70	V
17844.000	38.27	-23.39	40.50	21.16	54.00	15.73	H

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)
5143.250	46.57	-24.19	33.89	36.88	54.00	7.43	V
5146.350	46.90	-24.19	33.89	37.20	54.00	7.10	V
12532.800	35.13	-29.04	38.63	25.54	54.00	18.87	V
15630.000	36.88	-26.00	40.56	22.33	54.00	17.12	V
17844.800	38.70	-23.42	40.50	21.62	54.00	15.30	H
17827.200	38.80	-23.17	40.50	21.47	54.00	15.20	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)
5350.800	45.18	-24.31	34.30	35.19	54.00	8.82	V
5353.600	45.09	-24.24	34.29	35.03	54.00	8.91	V
12228.000	35.45	-28.81	38.74	25.51	54.00	18.55	H
15870.000	37.59	-25.32	40.97	21.94	54.00	16.41	V
17827.200	38.77	-23.17	40.50	21.45	54.00	15.23	V
17841.600	38.74	-23.31	40.50	21.54	54.00	15.26	H

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)
5454.250	44.48	-23.37	34.19	33.66	54.00	9.52	V
5457.900	44.68	-23.32	34.18	33.82	54.00	9.32	V
11060.000	33.35	-30.61	37.60	26.36	54.00	20.65	H
16011.600	38.44	-25.07	40.90	22.60	54.00	15.56	V
17827.600	38.39	-23.15	40.50	21.03	54.00	15.61	V
17842.400	38.20	-23.34	40.50	21.04	54.00	15.80	V

Channel 138

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)
5363.900	43.46	-24.02	34.27	33.21	54.00	10.54	V
5450.550	44.08	-23.43	34.20	33.31	54.00	9.92	V
11380.000	33.68	-30.57	37.68	26.57	54.00	20.32	H
16020.400	38.56	-24.94	40.90	22.60	54.00	15.44	H
17832.000	37.93	-23.04	40.50	20.47	54.00	16.07	V
17844.000	37.87	-23.39	40.50	20.76	54.00	16.13	H

PEAK Results:
802.11a
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)
5147.315	66.16	-24.19	33.89	56.46	74.00	7.84	H
5148.068	66.09	-24.19	33.90	56.39	74.00	7.91	H
10359.950	42.34	-31.16	37.20	36.30	68.30	25.96	V
15539.800	48.08	-26.43	40.44	34.08	74.00	25.92	H
16621.150	51.62	-24.86	41.42	35.07	68.30	16.68	H
16952.800	51.85	-24.08	41.19	34.73	68.30	16.45	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)
5352.729	70.01	-24.26	34.29	59.98	74.00	3.99	H
5353.330	70.10	-24.25	34.29	60.05	74.00	3.90	H
10639.900	42.23	-31.44	37.48	36.19	68.30	26.07	H
15960.000	49.40	-25.19	40.94	33.65	74.00	24.60	H
16721.800	51.46	-24.60	41.46	34.60	68.30	16.84	V
17418.000	51.74	-24.15	40.68	35.22	68.30	16.55	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)
5468.800	59.78	-23.37	34.16	48.99	74.00	14.22	H
5469.362	60.73	-23.38	34.16	49.94	74.00	13.27	H
11000.700	45.14	-31.10	37.60	38.64	74.00	28.86	H
16501.800	50.62	-25.41	41.20	34.82	68.30	17.68	H
16697.050	52.23	-24.45	41.50	35.18	68.30	16.07	V
17599.050	51.97	-24.27	40.60	35.64	68.30	16.33	H

Channel 144

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)
5675.600	57.68	-23.79	34.20	47.27	68.30	10.62	H
5780.200	56.24	-23.15	34.50	44.90	68.30	12.06	H
11440.150	45.50	-29.88	37.82	37.56	74.00	28.50	H
16624.450	52.31	-24.81	41.42	35.70	68.30	15.99	H
17046.300	51.72	-24.46	41.01	35.17	68.30	16.58	V
17160.150	51.26	-24.63	40.84	35.05	68.30	17.04	H

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)
5148.802	65.31	-24.19	33.90	55.61	74.00	8.69	H
5149.572	66.05	-24.19	33.90	56.34	74.00	7.95	H
10359.950	43.57	-31.16	37.20	37.53	68.30	24.73	H
15539.000	48.70	-26.41	40.44	34.68	74.00	25.30	V
16647.000	51.97	-24.66	41.45	35.19	68.30	16.33	H
16950.050	51.95	-24.04	41.20	34.78	68.30	16.35	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)
5350.825	69.19	-24.31	34.30	59.20	74.00	4.81	V
5350.988	69.98	-24.30	34.30	59.99	74.00	4.02	V
10639.900	43.09	-31.44	37.48	37.05	68.30	25.21	V
15960.050	49.90	-25.19	40.94	34.15	74.00	24.10	V
16634.900	51.86	-24.65	41.43	35.07	68.30	16.44	V
17376.300	52.09	-24.02	40.72	35.38	68.30	16.21	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)
5466.850	58.11	-23.35	34.17	47.30	74.00	15.89	V
5468.192	62.31	-23.37	34.16	51.51	74.00	11.69	H
10997.400	45.84	-31.03	37.60	39.27	74.00	28.16	H
16500.700	50.06	-25.40	41.20	34.26	68.30	18.24	H
16636.550	51.81	-24.62	41.44	34.99	68.30	16.49	V
16988.000	51.89	-24.30	41.12	35.07	68.30	16.41	H

Channel 144

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)
5678.200	58.67	-23.72	34.20	48.19	68.30	9.63	H
5764.000	56.87	-23.35	34.50	45.72	68.30	11.43	H
11440.150	44.90	-29.88	37.82	36.97	74.00	29.10	H
16624.450	52.08	-24.81	41.42	35.46	68.30	16.22	H
16805.950	50.82	-24.90	41.30	34.42	68.30	17.48	H
17160.150	48.57	-24.63	40.84	32.36	68.30	19.73	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)
5149.187	70.70	-24.19	33.90	61.00	74.00	3.30	H
5148.785	67.82	-24.19	33.90	58.11	74.00	6.18	H
10379.750	42.97	-31.26	37.20	37.03	68.30	25.33	V
15570.100	47.62	-26.29	40.47	33.44	74.00	26.38	V
16640.950	51.98	-24.58	41.44	35.12	68.30	16.32	V
17044.600	51.73	-24.51	41.01	35.22	68.30	16.57	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)
5350.150	67.57	-24.32	34.30	57.59	68.30	0.73	V
5350.569	66.87	-24.31	34.30	56.88	68.30	1.43	H
10618.450	44.92	-31.49	37.44	38.98	68.30	23.38	H
15929.800	51.28	-25.72	40.97	36.02	74.00	22.72	V
16739.400	52.51	-24.69	41.42	35.78	68.30	15.79	H
16831.800	52.39	-24.56	41.30	35.65	68.30	15.91	H

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)
5467.370	64.41	-23.36	34.17	53.60	74.00	9.59	H
5468.620	63.42	-23.37	34.16	52.63	74.00	10.58	H
11019.950	43.92	-30.81	37.60	37.13	74.00	30.08	H
16529.850	48.99	-24.69	41.26	32.42	68.30	19.30	H
16934.650	52.03	-24.33	41.23	35.13	68.30	16.27	H
17381.800	51.26	-23.98	40.72	34.51	68.30	17.04	V

Channel 142

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)
5648.880	58.66	-23.68	34.20	48.13	68.30	9.64	V
5819.400	56.91	-23.05	34.54	45.42	68.30	11.39	V
11421.450	46.02	-30.35	37.76	38.60	74.00	27.98	H
16757.000	52.18	-24.60	41.39	35.39	68.30	16.12	H
17108.450	52.92	-24.27	40.89	36.29	68.30	15.38	H
17129.900	50.09	-24.51	40.87	33.72	68.30	18.21	H

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)
5146.913	61.01	-24.19	33.89	51.31	74.00	12.99	H
5148.172	63.66	-24.19	33.90	53.96	74.00	10.34	H
10359.950	43.66	-31.16	37.20	37.62	68.30	24.64	V
15539.850	48.58	-26.43	40.44	34.57	74.00	25.42	H
16633.250	51.96	-24.67	41.43	35.20	68.30	16.34	V
16953.900	51.80	-24.09	41.19	34.71	68.30	16.49	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)
5350.515	65.64	-24.31	34.30	55.65	74.00	8.36	V
5350.583	66.32	-24.31	34.30	56.33	74.00	7.68	V
10639.900	45.29	-31.44	37.48	39.26	68.30	23.01	H
15960.050	49.54	-25.19	40.94	33.79	74.00	24.46	H
16740.500	52.31	-24.70	41.42	35.58	68.30	15.99	H
17428.000	52.73	-23.98	40.67	36.05	68.30	15.57	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)
5469.595	58.28	-23.38	34.16	47.50	74.00	15.72	H
5469.737	61.46	-23.38	34.16	50.68	74.00	12.54	H
11000.700	45.39	-31.10	37.60	38.89	74.00	28.61	V
16502.350	50.21	-25.41	41.20	34.41	68.30	18.09	V
16792.200	52.68	-24.88	41.32	36.24	68.30	15.62	V
17012.750	52.71	-24.27	41.07	35.91	68.30	15.59	V

Channel 144

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)
5679.400	57.52	-23.69	34.20	47.01	68.30	10.78	H
5767.200	56.25	-23.37	34.50	45.12	68.30	12.05	H
11440.150	45.16	-29.88	37.82	37.22	74.00	28.84	H
16628.850	51.58	-24.74	41.43	34.89	68.30	16.72	V
16957.000	52.08	-24.14	41.19	35.03	68.30	16.22	V
17160.150	48.64	-24.63	40.84	32.43	68.30	19.66	H

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)
5148.960	70.42	-24.19	33.90	60.71	74.00	3.58	H
5149.520	70.89	-24.19	33.90	61.18	74.00	3.11	H
10379.750	43.98	-31.26	37.20	38.03	68.30	24.32	H
15570.100	48.84	-26.29	40.47	34.67	74.00	25.16	V
16695.400	52.43	-24.51	41.50	35.44	68.30	15.87	V
16999.550	51.98	-24.18	41.10	35.06	68.30	16.32	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)
5350.310	66.40	-24.32	34.30	56.42	74.00	7.60	H
5351.379	65.78	-24.29	34.30	55.77	74.00	8.22	V
10621.750	44.29	-31.43	37.44	38.28	68.30	24.01	H
15930.350	50.25	-25.72	40.97	35.00	74.00	23.75	V
16640.400	51.86	-24.57	41.44	34.99	68.30	16.44	H
16924.200	51.92	-24.43	41.25	35.10	68.30	16.38	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)
5467.120	63.55	-23.36	34.17	52.74	74.00	10.45	V
5468.417	63.74	-23.37	34.16	52.94	74.00	10.26	H
11019.950	44.24	-30.81	37.60	37.45	74.00	29.76	H
16529.850	50.44	-24.69	41.26	33.87	68.30	17.86	H
16725.000	52.57	-24.59	41.45	35.71	68.30	15.73	H
17431.850	51.75	-23.98	40.67	35.06	68.30	16.55	V

Channel 142

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)
5639.800	55.84	-23.65	34.20	45.29	68.30	12.46	H
5815.600	56.54	-23.11	34.53	45.11	68.30	11.76	H
11419.250	45.77	-30.38	37.76	38.39	74.00	28.23	V
16929.700	52.46	-24.42	41.24	35.65	68.30	15.84	V
17129.900	49.77	-24.51	40.87	33.41	68.30	18.53	H
17430.750	52.00	-23.95	40.67	35.28	68.30	16.30	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)
5147.965	69.07	-24.19	33.90	59.36	74.00	4.93	V
5149.117	67.64	-24.19	33.90	57.93	74.00	6.36	V
10420.450	44.65	-31.40	37.26	38.79	68.30	23.65	H
15628.400	49.64	-26.03	40.56	35.11	74.00	24.36	V
16644.800	52.02	-24.63	41.44	35.20	68.30	16.28	H
17044.650	51.89	-24.51	41.01	35.38	68.30	16.41	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)
5351.068	66.65	-24.30	34.30	56.65	74.00	7.35	H
5354.025	67.53	-24.23	34.29	57.46	74.00	6.47	V
10579.950	44.52	-31.41	37.42	38.51	68.30	23.78	H
15868.200	49.71	-25.34	40.97	34.08	74.00	24.29	H
16601.350	52.35	-24.65	41.40	35.60	68.30	15.95	V
16963.250	51.59	-24.17	41.17	34.59	68.30	16.71	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)
5466.182	62.78	-23.35	34.17	51.96	74.00	11.22	H
5468.320	62.31	-23.37	34.16	51.52	74.00	11.69	V
11060.100	45.54	-30.61	37.60	38.55	74.00	28.46	H
16589.800	51.20	-24.60	41.38	34.41	68.30	17.10	V
16936.850	52.54	-24.28	41.23	35.59	68.30	15.76	H
16979.200	52.80	-24.34	41.14	36.00	68.30	15.50	H

Channel 138

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)
5557.000	58.57	-23.69	34.11	48.15	68.30	9.73	H
5811.600	56.88	-23.17	34.52	45.53	68.30	11.42	H
11380.200	45.32	-30.57	37.68	38.21	74.00	28.68	V
16641.500	52.00	-24.59	41.44	35.15	68.30	16.30	H
16938.500	53.16	-24.25	41.22	36.18	68.30	15.14	H
17070.500	50.46	-24.21	40.96	33.71	68.30	17.84	V

Conclusion: PASS

Band edge compliance

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.34	P
	5320 MHz	Fig.35	P
	5500 MHz	Fig.36	P
	5700 MHz	Fig.37	P
802.11n HT20	5180 MHz	Fig.38	P
	5320 MHz	Fig.39	P
	5500 MHz	Fig.40	P
	5700 MHz	Fig.41	P
802.11n HT40	5190 MHz	Fig.42	P
	5310 MHz	Fig.43	P
	5510 MHz	Fig.44	P
	5670 MHz	Fig.45	P
802.11ac HT20	5180 MHz	Fig.46	P
	5320 MHz	Fig.47	P
	5500 MHz	Fig.48	P
	5700 MHz	Fig.49	P
802.11ac HT40	5190 MHz	Fig.50	P
	5310 MHz	Fig.51	P
	5510 MHz	Fig.52	P
	5670 MHz	Fig.53	P
802.11ac HT80	5210MHz	Fig.54	P
	5290MHz	Fig.55	P
	5530MHz	Fig.56	P
	5610MHz	Fig.57	P

Conclusion: PASS

Test graphs as below:

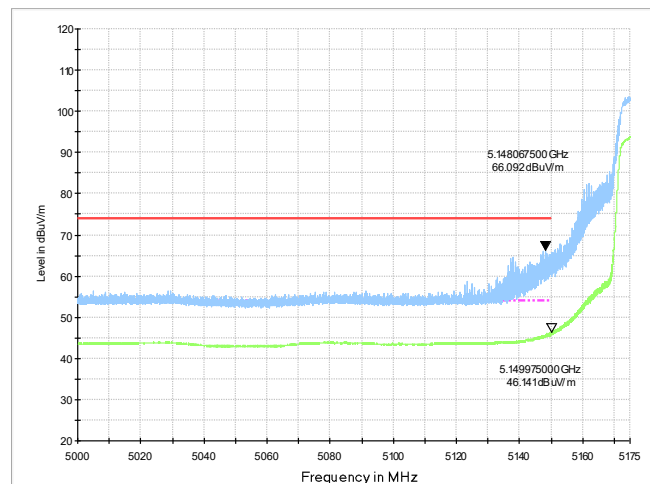


Fig.34 Band Edges (802.11a Ch36, 5180MHz)

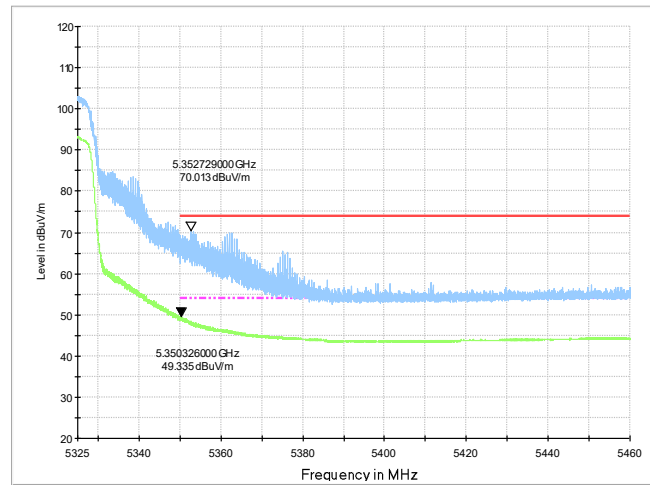


Fig.35 Band Edges (802.11a Ch64, 5320MHz)

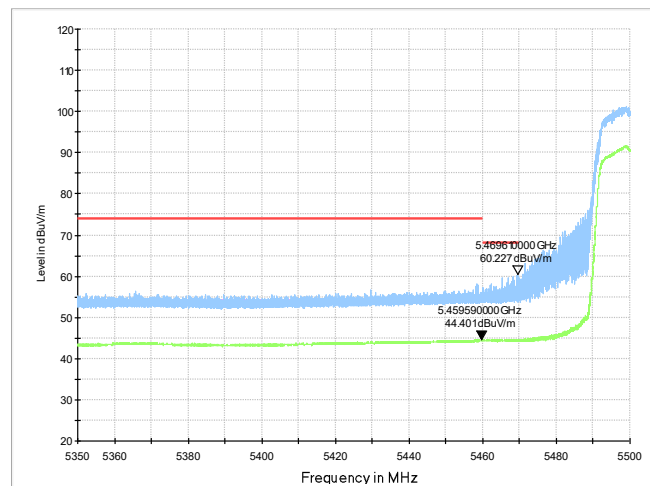


Fig.36 Band Edges (802.11a Ch100, 5500MHz)

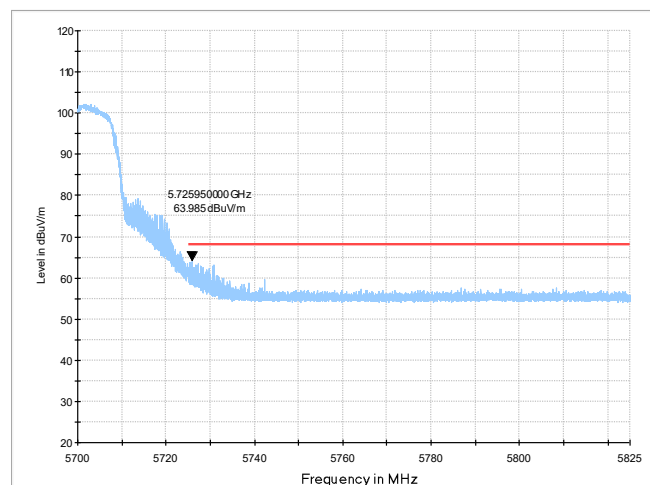


Fig.37 Band Edges (802.11a Ch140, 5700MHz)

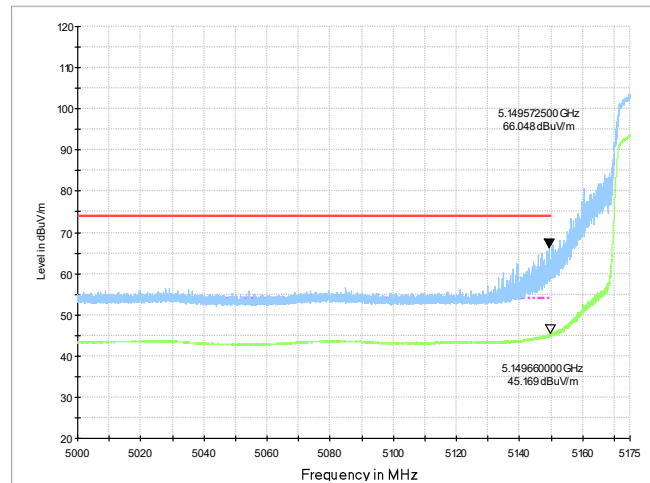


Fig.38 Band Edges (802.11n-HT20 Ch36, 5180MHz)

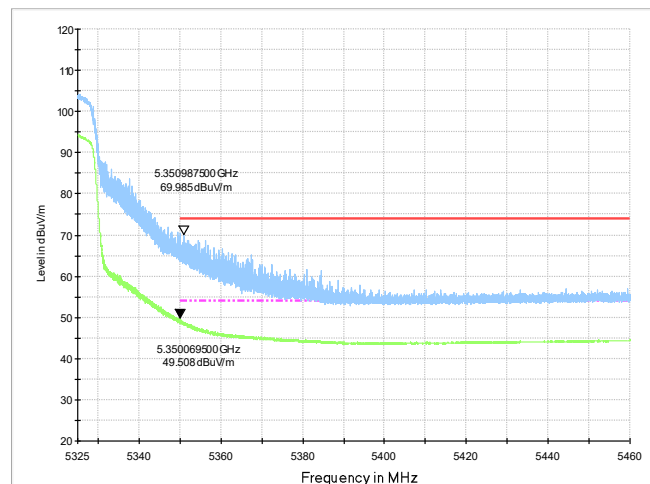


Fig.39 Band Edges (802.11n-HT20 Ch64, 5320MHz)

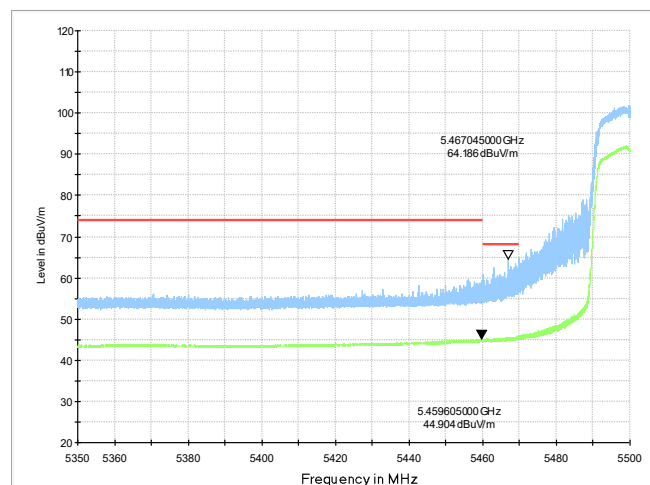


Fig.40 Band Edges (802.11n-HT20 Ch100, 5500MHz)

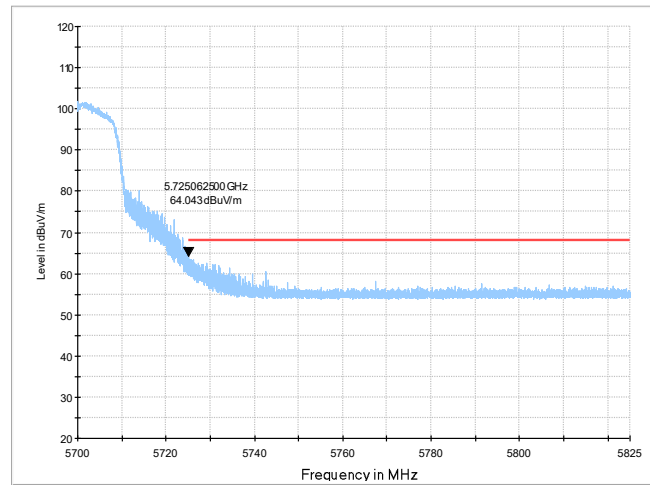


Fig.41 Band Edges (802.11n-HT20 Ch140, 5700MHz)

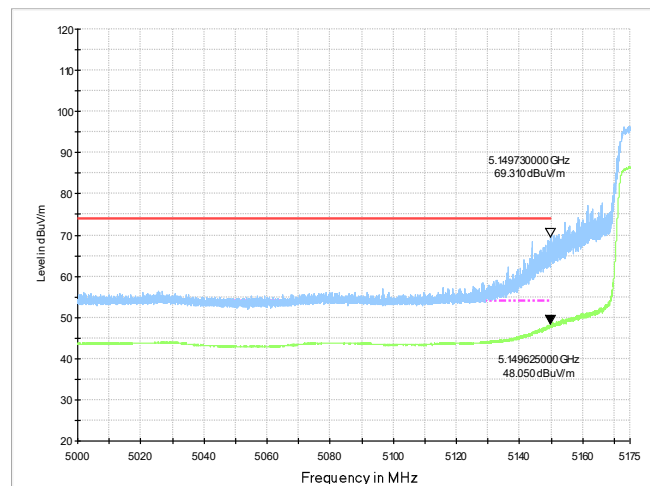


Fig.42 Band Edges (802.11n-HT40 Ch38, 5190MHz)

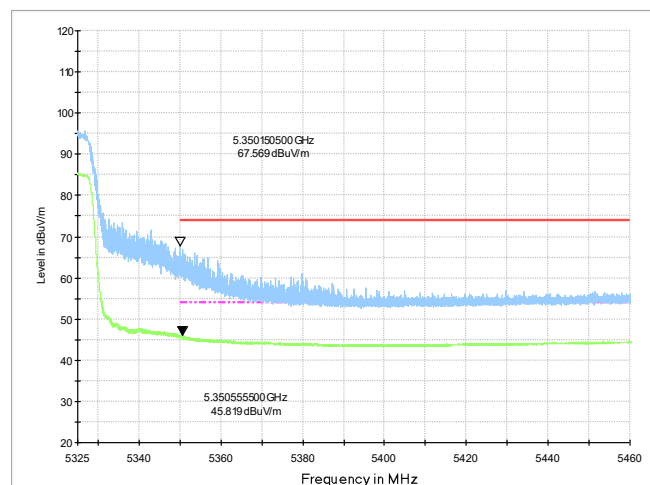


Fig.43 Band Edges (802.11n-HT40 Ch62, 5310MHz)

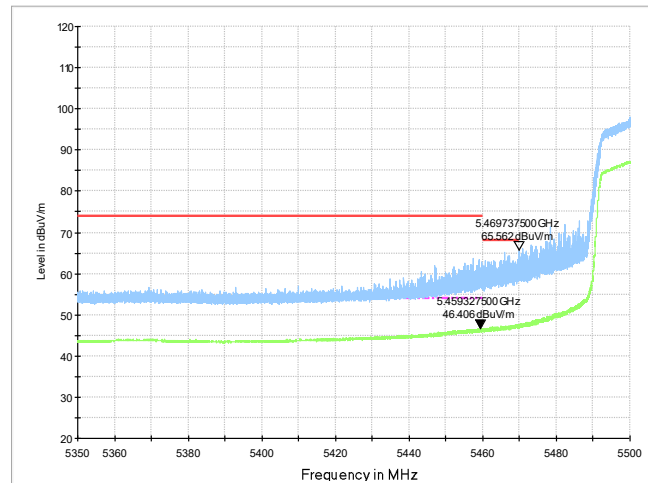


Fig.44 Band Edges (802.11n-HT40 Ch102, 5510MHz)

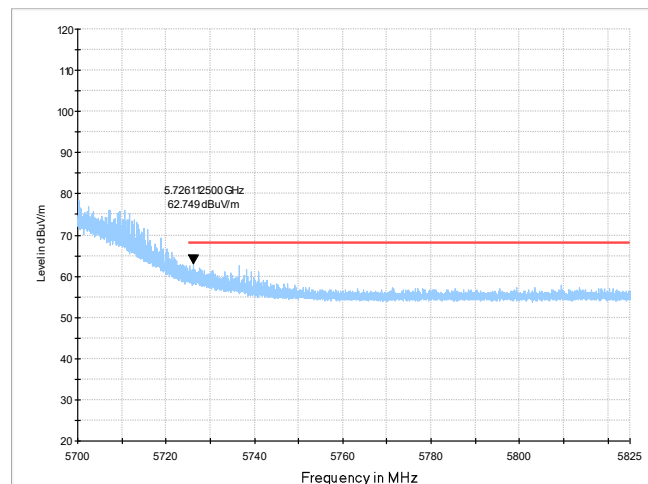


Fig.45 Band Edges (802.11n-HT40 Ch134, 5670MHz)

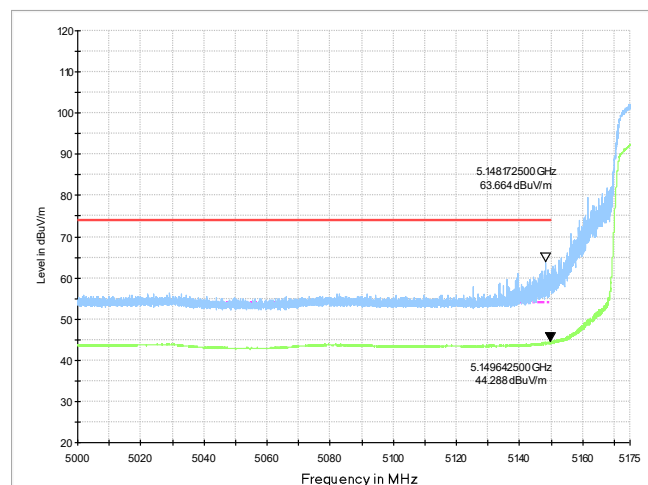


Fig.46 Band Edges (802.11ac-HT20 Ch36, 5180MHz)

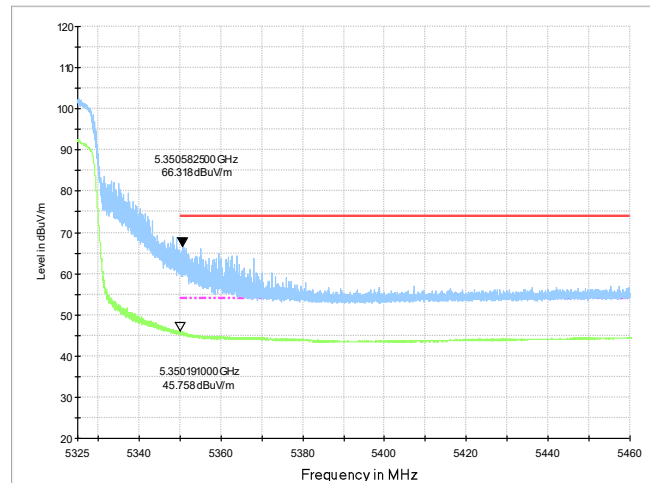


Fig.47 Band Edges (802.11ac-HT20 Ch64, 5320MHz)

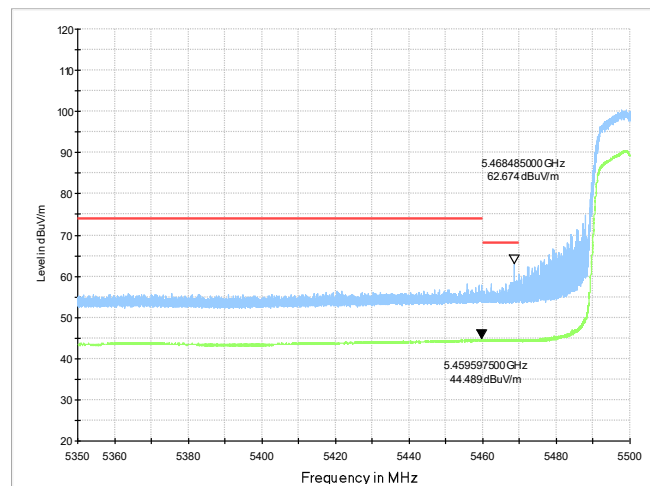


Fig.48 Band Edges (802.11ac-HT20 Ch100, 5500MHz)

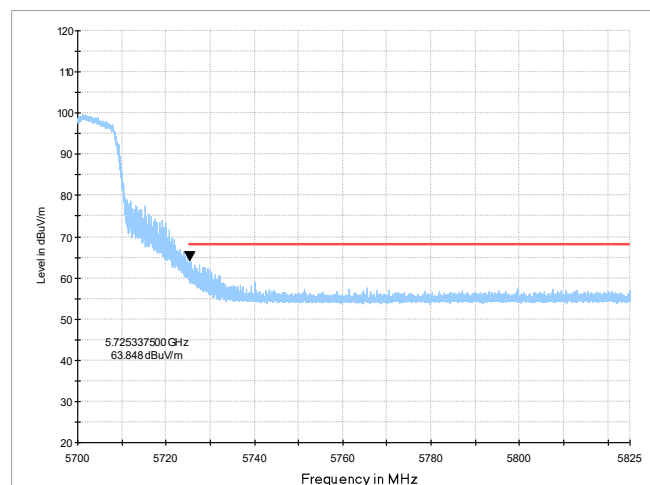


Fig.49 Band Edges (802.11ac-HT20 Ch140, 5700MHz)

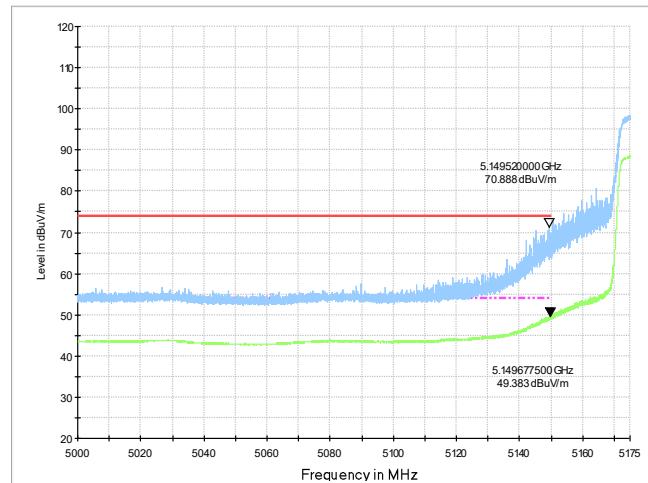


Fig.50 Band Edges (802.11ac-HT40 Ch38, 5190MHz)

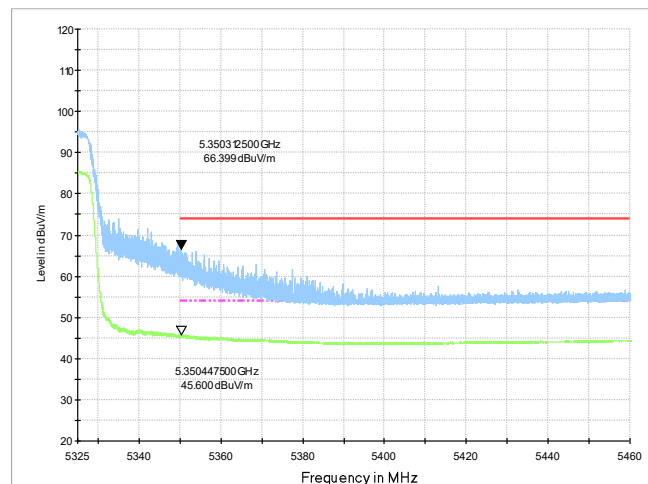


Fig.51 Band Edges (802.11ac-HT40 Ch62, 5310MHz)

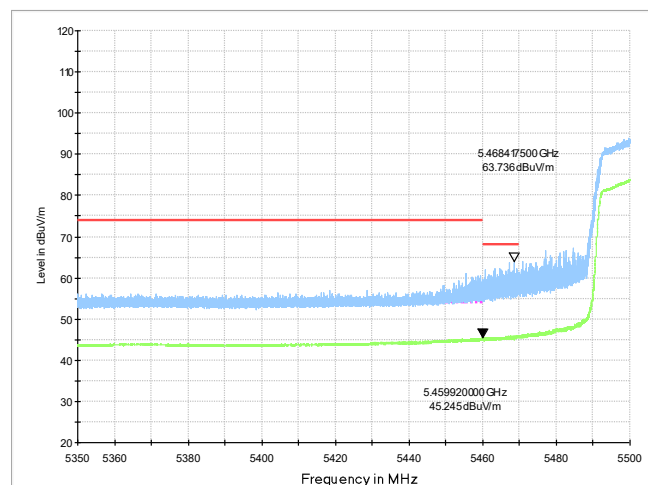


Fig.52 Band Edges (802.11ac-HT40 Ch102, 5510MHz)

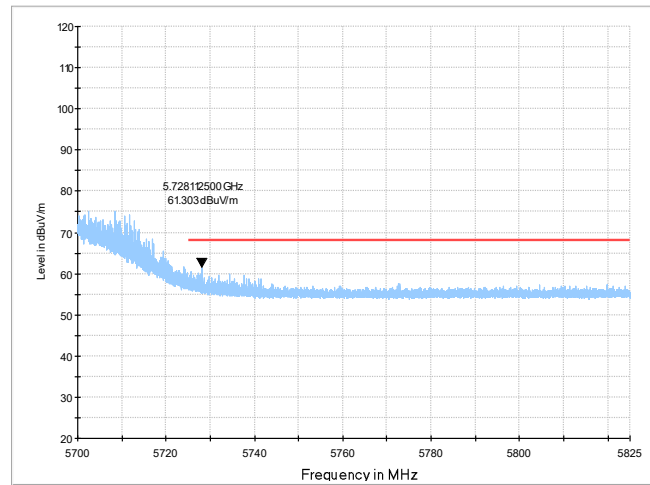


Fig.53 Band Edges (802.11ac-HT40 Ch134, 5670MHz)

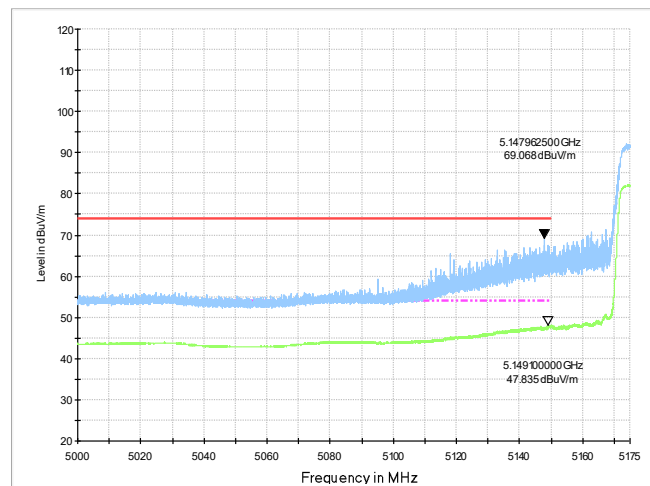


Fig.54 Band Edges (802.11ac-HT80 Ch42 , 5210MHz)

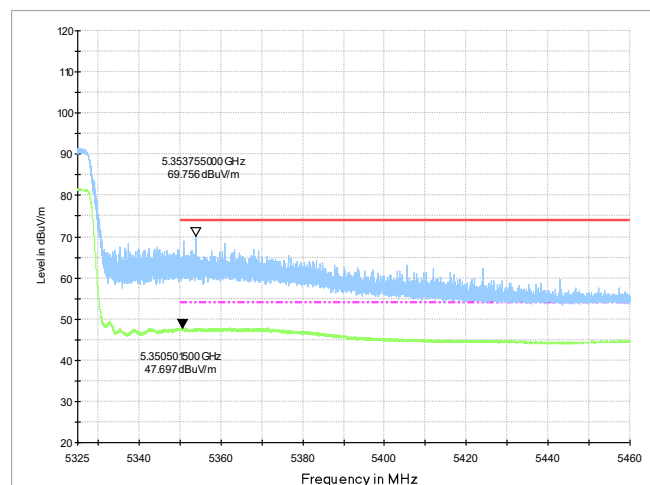


Fig.55 Band Edges (802.11ac-HT80 Ch58, 5290MHz)

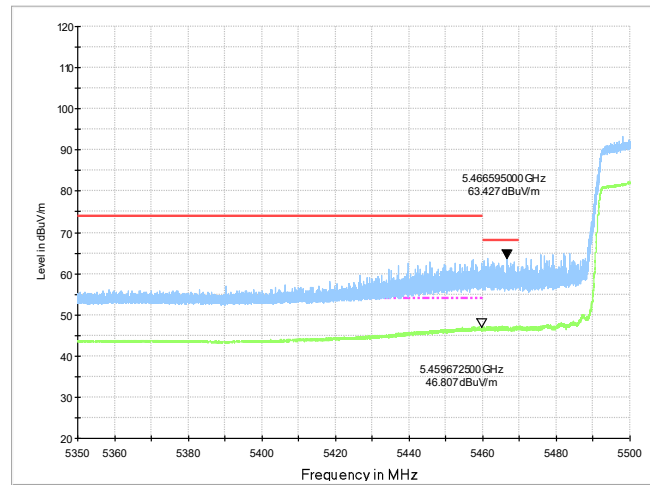


Fig.56 Band Edges (802.11ac-HT80 Ch106, 5530MHz)

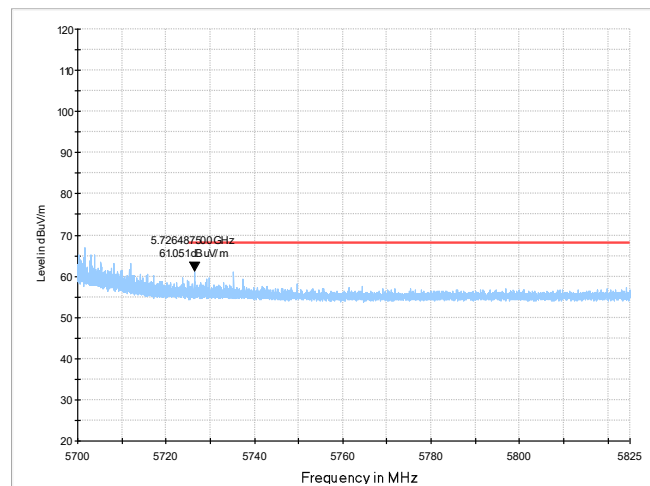


Fig.57 Band Edges (802.11ac-HT80 Ch122, 5610MHz)

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.

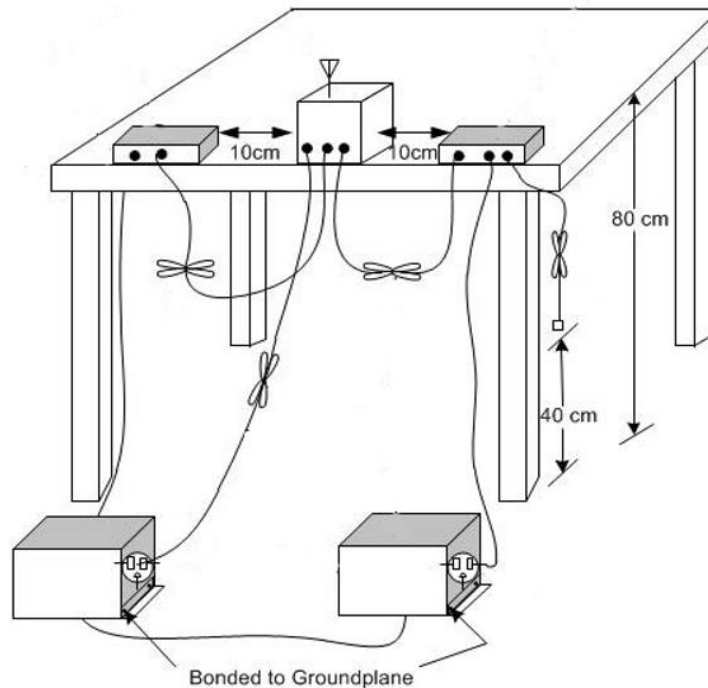
The measurement bandwidth is:

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.58	Fig.59	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.58	Fig.59	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:

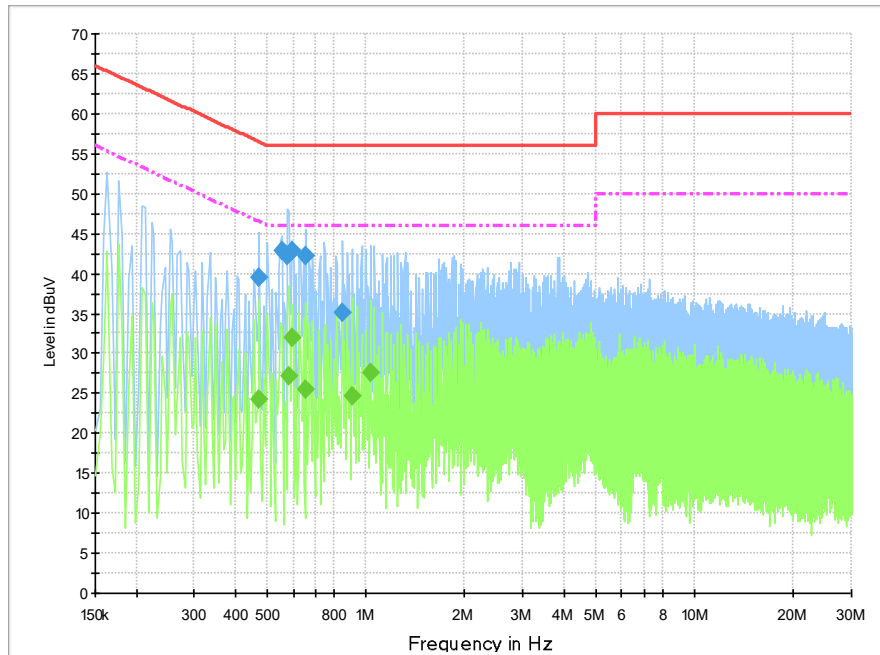


Fig.58 Conducted Emission(802.11a, Ch36, TX)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.474000	39.5	2000.0	9.000	On	N	20.2	16.9	56.4	
0.555000	42.7	2000.0	9.000	On	N	20.2	13.3	56.0	
0.577500	42.2	2000.0	9.000	On	N	20.1	13.8	56.0	
0.595500	42.9	2000.0	9.000	On	N	20.1	13.1	56.0	
0.658500	42.1	2000.0	9.000	On	L1	20.0	13.9	56.0	
0.847500	35.2	2000.0	9.000	On	N	20.1	20.8	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.474000	24.2	2000.0	9.000	On	L1	20.1	22.2	46.4	
0.582000	27.2	2000.0	9.000	On	N	20.1	18.8	46.0	
0.595500	31.9	2000.0	9.000	On	N	20.1	14.1	46.0	
0.658500	25.5	2000.0	9.000	On	L1	20.0	20.5	46.0	
0.906000	24.6	2000.0	9.000	On	N	20.1	21.4	46.0	
1.032000	27.7	2000.0	9.000	On	L1	19.9	18.3	46.0	

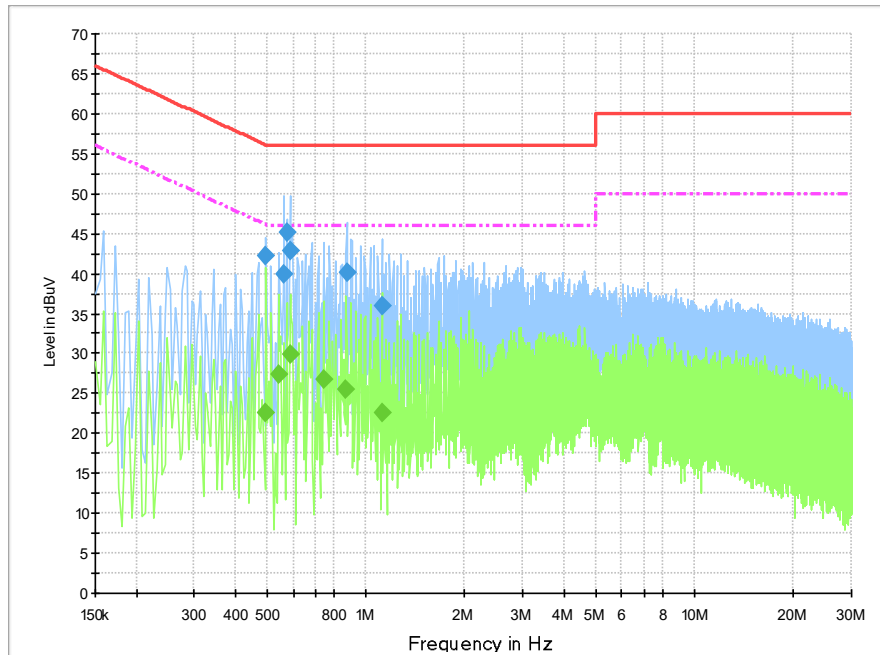


Fig.59 Conducted Emission(802.11a, IDLE)

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.496500	42.2	2000.0	9.000	On	L1	20.1	13.9	56.1	
0.564000	39.9	2000.0	9.000	On	L1	20.0	16.1	56.0	
0.573000	45.2	2000.0	9.000	On	L1	20.0	10.8	56.0	
0.586500	42.8	2000.0	9.000	On	N	20.1	13.2	56.0	
0.874500	40.1	2000.0	9.000	On	L1	19.9	15.9	56.0	
1.122000	35.9	2000.0	9.000	On	N	20.0	20.1	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)	Comment
0.496500	22.6	2000.0	9.000	On	N	20.2	23.5	46.1	
0.541500	27.4	2000.0	9.000	On	L1	20.1	18.6	46.0	
0.586500	29.9	2000.0	9.000	On	N	20.1	16.1	46.0	
0.744000	26.7	2000.0	9.000	On	L1	20.0	19.3	46.0	
0.870000	25.5	2000.0	9.000	On	N	20.1	20.5	46.0	
1.117500	22.6	2000.0	9.000	On	N	20.0	23.4	46.0	

A.8. 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% of the 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: UT36a

Measurement Result:

Mode	Frequency	99% Occupied bandwidth (MHz)		conclusion
802.11a	5180 MHz	Fig.60	17.289	P
	5200 MHz	Fig.61	17.306	P
	5240 MHz	Fig.62	17.403	P
802.11n HT20	5180 MHz	Fig.63	18.192	P
	5200 MHz	Fig.64	18.153	P
	5240 MHz	Fig.65	18.185	P
802.11n HT40	5190 MHz	Fig.66	36.635	P
	5230 MHz	Fig.67	36.847	P
802.11ac VHT80	5210 MHz	Fig.68	75.402	P

Test graphs as below:

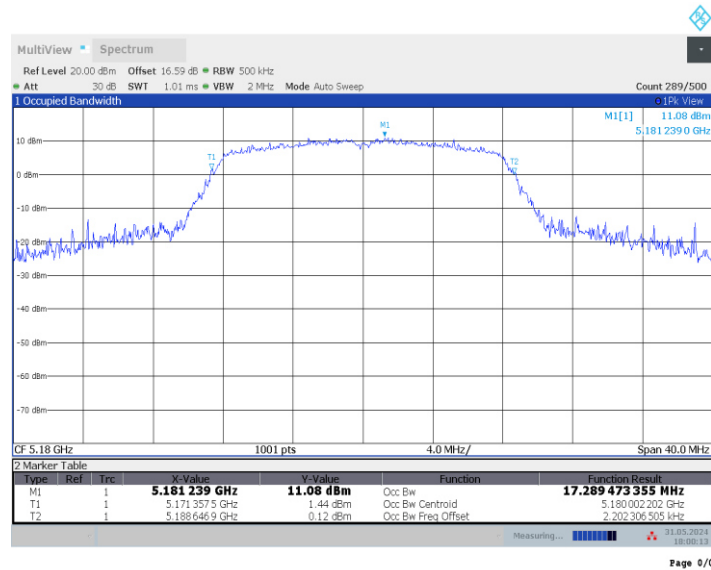


Fig.60 99% Occupied bandwidth (802.11a, 5180MHz)

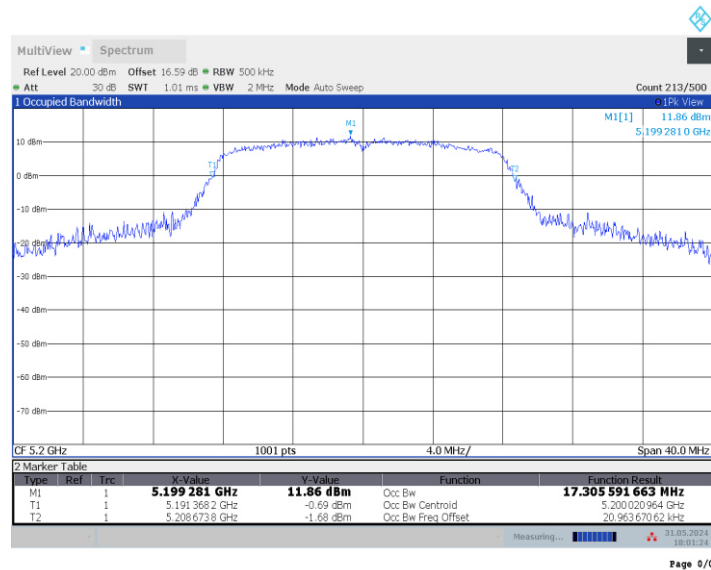


Fig.61 99% Occupied bandwidth (802.11a, 5200MHz)

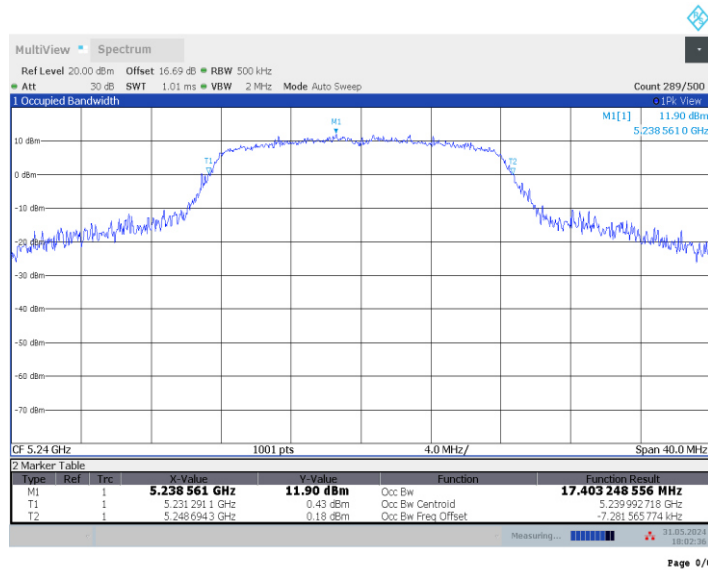


Fig.62 99% Occupied bandwidth (802.11a, 5240MHz)

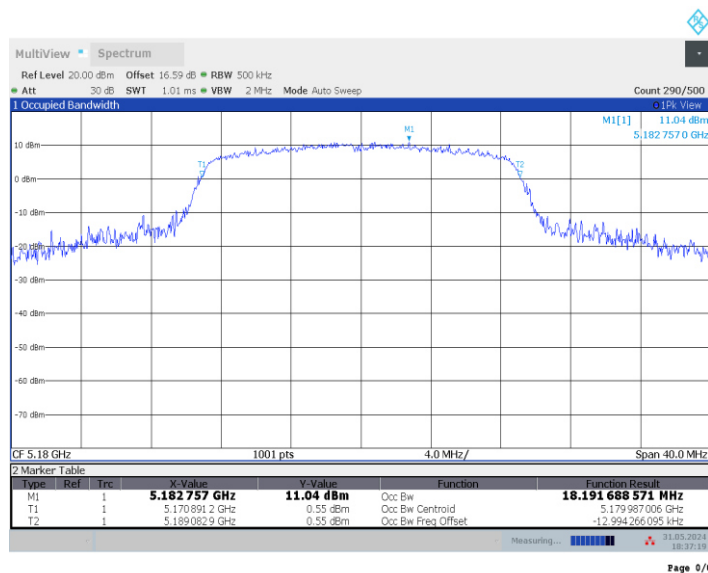


Fig.63 99% Occupied bandwidth (802.11n-HT20, 5180MHz)

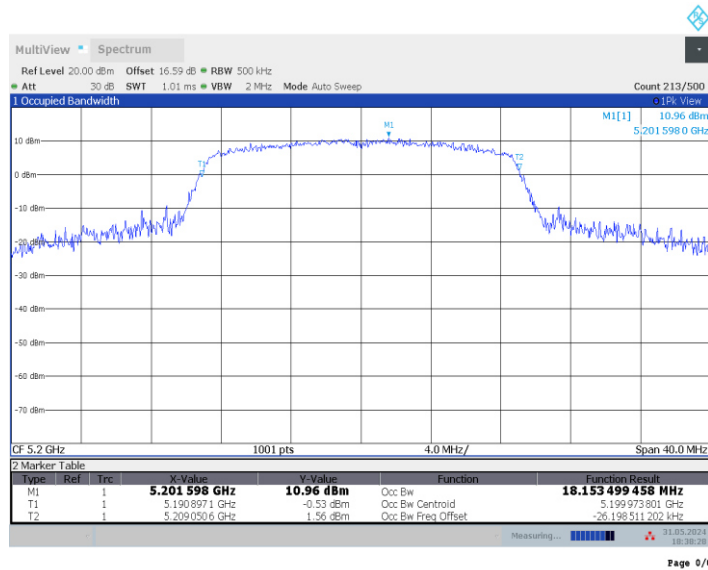


Fig.64 99% Occupied bandwidth (802.11n-HT20, 5200MHz)

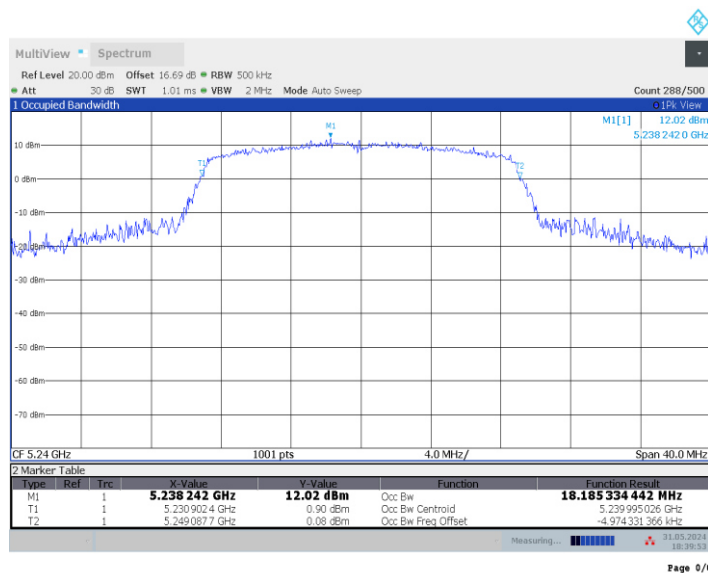


Fig.65 99% Occupied bandwidth (802.11n-HT20, 5240MHz)

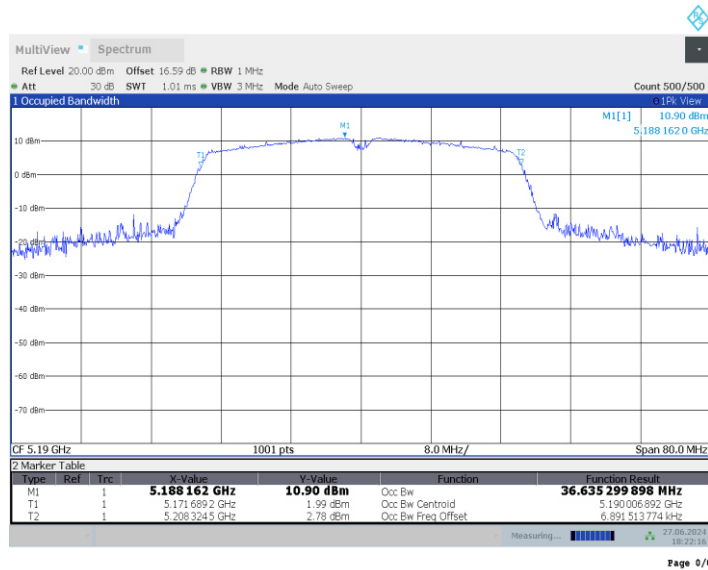


Fig.66 99% Occupied bandwidth (802.11n-HT40, 5190MHz)

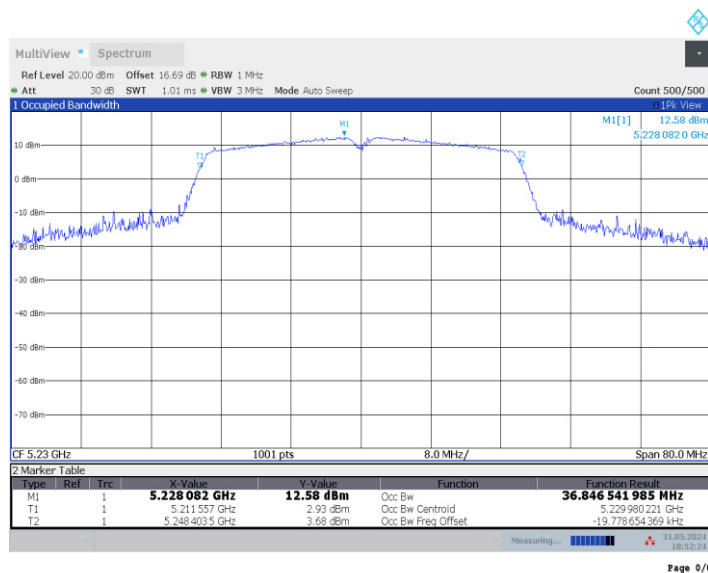


Fig.67 99% Occupied bandwidth (802.11n-HT40, 5230MHz)

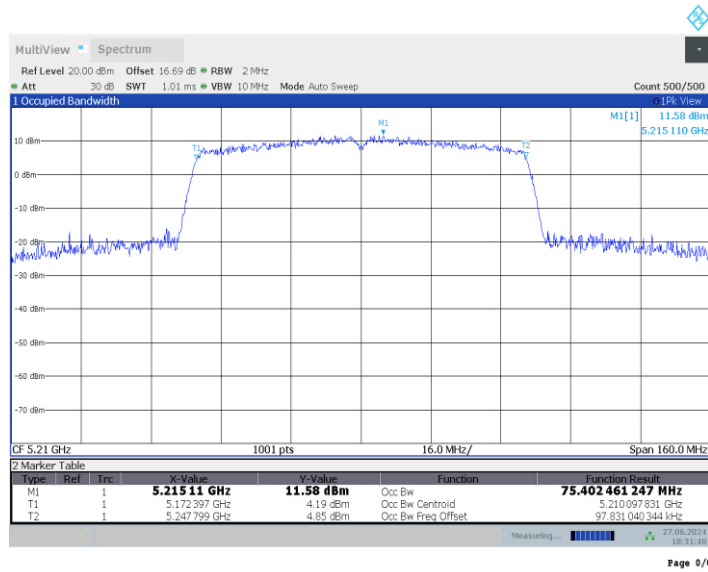


Fig.68 99% Occupied bandwidth (802.11ac-VHT80, 5210MHz)

Conclusion: PASS

A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

ANNEX B: EUT parameters

Disclaimer: The antenna gain and worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate



*** END OF REPORT BODY ***