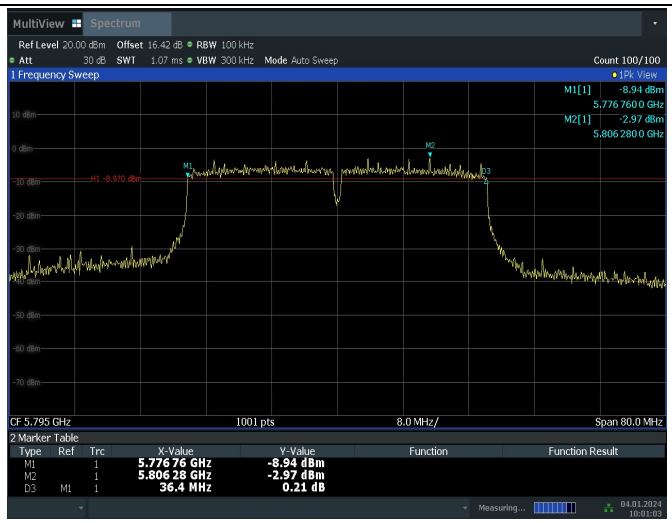

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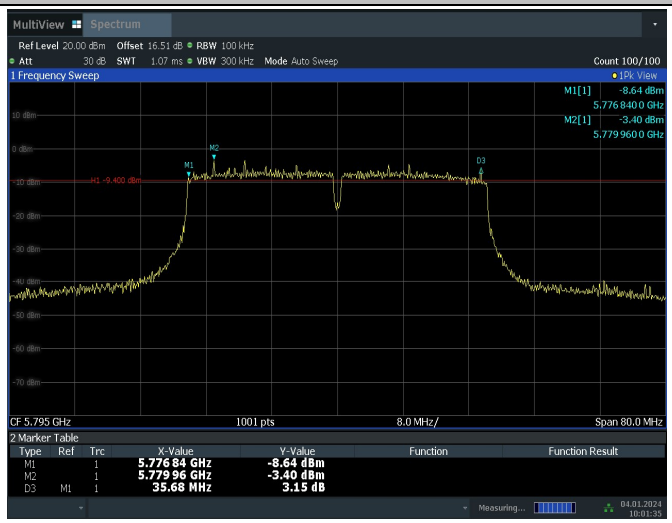
11N40MIMO_Ant10_5795



10:01:36 04.01.2024

11AC80MIMO_Ant6_5775

10:02:38 04.01.2024

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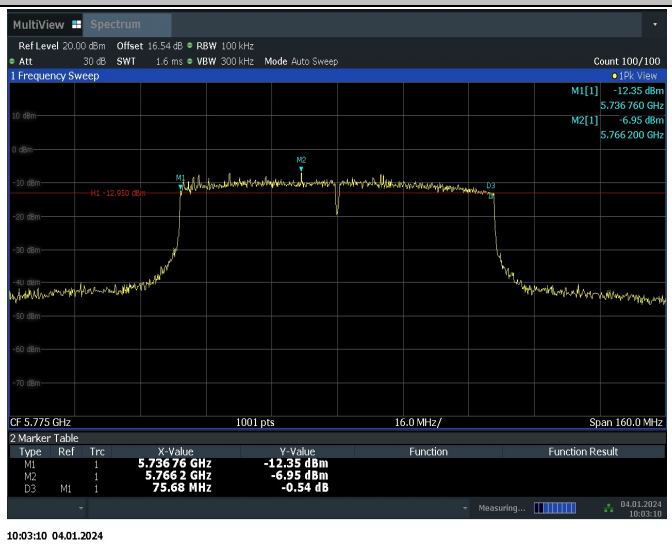
11AC80MIMO_Ant10_5775


Conclusion: PASS

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A.5. Transmitter Spurious Emission

A.5.1 Transmitter Spurious Emission - Radiated

Limit:

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

Standard	Limit (dBm/MHz)	
FCC 47 CFR Part 15.407	at the band edge	27
	at 5 MHz above or below the band edge	15.6
	at 25 MHz above or below the band edge	10
	at 75 MHz or more above or below the band edge	-27
	note：Increasing linearly from point to point.	

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).

Test setup:

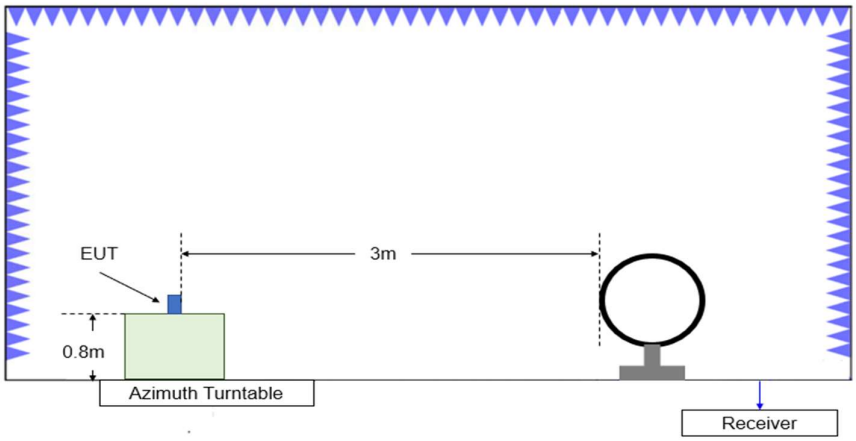

Figure A.5.1. Test Site Diagram (9kHz-30MHz)

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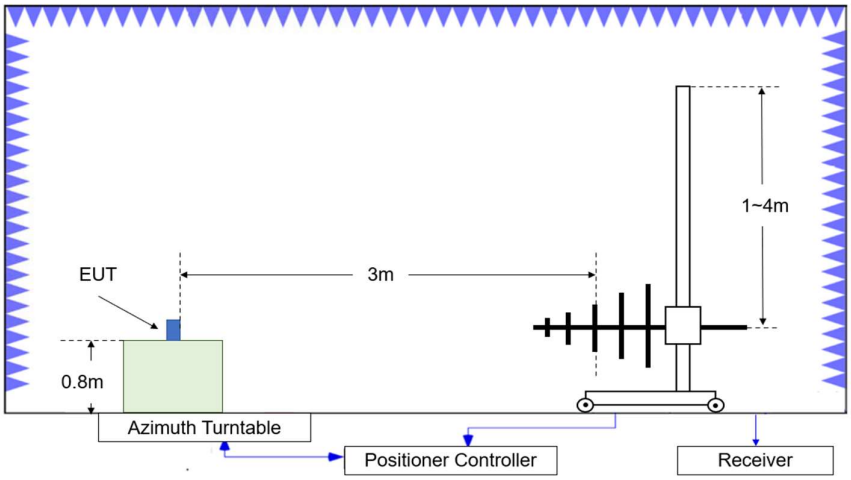

Figure A.5.2. Test Site Diagram (30MHz-1GHz)

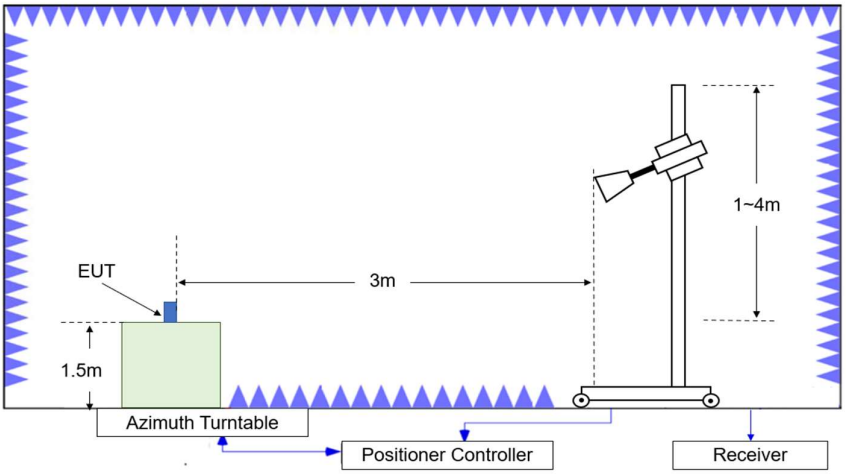

Figure A.5.3. Test Site Diagram (1GHz-40GHz)

Test Procedure:

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

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

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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. Measurement frequencies were performed from 9 kHz to 40GHz.
5. The measurements were performed separately in chain1, chain2, and MIMO (chain1+chain2), and only the worst cases are shown in this section.
6. 802.11ax support full RU and partial RU, both full RU and partial RU are tested and worst cases are shown in this report.

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Measurement Result:

EUT ID: UT19a

Average Results:

802.11a

Channel 149

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)
5453.350	42.98	-24.46	34.19	33.24	54.00	11.02	V
5457.950	42.85	-24.49	34.18	33.15	54.00	11.15	V
11490.000	34.28	-30.15	38.98	25.44	54.00	19.72	H
17784.000	39.68	-23.95	41.72	21.92	54.00	14.32	V
17953.500	40.07	-24.18	41.81	22.44	54.00	13.93	V
17995.500	40.32	-24.31	41.89	22.73	54.00	13.68	H

Channel 157

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)
5451.400	42.56	-24.45	34.20	32.81	54.00	11.44	V
5457.900	42.51	-24.49	34.18	32.81	54.00	11.49	V
11570.000	34.22	-30.11	38.93	25.40	54.00	19.78	V
17786.500	39.65	-23.94	41.71	21.87	54.00	14.35	H
17957.000	40.05	-24.19	41.81	22.42	54.00	13.95	V
17985.500	40.21	-24.27	41.87	22.61	54.00	13.79	V

Channel 165

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)
5459.550	42.54	-24.50	34.18	32.86	54.00	11.46	V
5459.950	42.52	-24.50	34.18	32.84	54.00	11.48	V
11650.000	34.25	-29.97	38.85	25.36	54.00	19.75	H
17788.500	39.66	-23.92	41.71	21.87	54.00	14.34	H
17956.500	40.10	-24.18	41.81	22.47	54.00	13.90	V
17988.500	40.23	-24.28	41.88	22.64	54.00	13.77	H

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802.11n-HT20

Channel 149

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)
5450.100	43.10	-24.44	34.20	33.34	54.00	10.90	V
5455.950	43.01	-24.48	34.19	33.30	54.00	10.99	V
11490.000	34.17	-30.15	38.98	25.33	54.00	19.83	V
17786.000	39.60	-23.94	41.71	21.82	54.00	14.40	V
17955.500	40.08	-24.18	41.81	22.45	54.00	13.92	V
17987.500	40.23	-24.28	41.88	22.64	54.00	13.77	V

Channel 157

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)
5457.800	42.61	-24.49	34.18	32.92	54.00	11.39	V
5459.050	42.60	-24.50	34.18	32.92	54.00	11.40	V
11570.000	34.26	-30.11	38.93	25.43	54.00	19.74	H
17820.500	39.58	-24.00	41.70	21.88	54.00	14.42	H
17961.000	40.10	-24.20	41.82	22.47	54.00	13.90	V
17986.500	40.23	-24.28	41.87	22.64	54.00	13.77	V

Channel 165

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)
5459.550	42.57	-24.50	34.18	32.89	54.00	11.43	V
5459.850	42.55	-24.50	34.18	32.87	54.00	11.45	V
11650.000	34.13	-29.97	38.85	25.24	54.00	19.87	H
17788.500	39.61	-23.92	41.71	21.82	54.00	14.39	H
17958.000	40.11	-24.19	41.82	22.48	54.00	13.89	H
17992.000	40.30	-24.29	41.88	22.71	54.00	13.70	V

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802.11n-HT40

Channel 151

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)
5439.100	42.70	-24.50	34.20	33.00	54.00	11.30	V
5451.254	42.78	-24.45	34.20	33.03	54.00	11.22	V
11510.000	34.52	-30.13	38.99	25.67	54.00	19.48	H
17819.000	39.77	-23.99	41.70	22.06	54.00	14.23	V
17956.000	40.15	-24.18	41.81	22.52	54.00	13.85	V
17987.500	40.26	-24.28	41.88	22.67	54.00	13.74	V

Channel 159

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)
5452.700	42.84	-24.46	34.19	33.10	54.00	11.16	V
5435.600	42.68	-24.52	34.20	33.00	54.00	11.32	V
11590.000	34.31	-30.23	38.91	25.63	54.00	19.69	V
17793.000	39.69	-23.90	41.71	21.87	54.00	14.32	H
17951.000	40.08	-24.17	41.80	22.45	54.00	13.92	V
17987.500	40.25	-24.28	41.88	22.66	54.00	13.75	H

802.11ac-VHT20

Channel 149

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)
5449.950	42.97	-24.44	34.20	33.21	54.00	11.03	V
5456.850	42.83	-24.48	34.19	33.12	54.00	11.17	V
11490.000	34.25	-30.15	38.98	25.42	54.00	19.75	H
17816.500	39.65	-23.97	41.70	21.93	54.00	14.35	V
17958.500	40.10	-24.19	41.82	22.48	54.00	13.90	H
17989.000	40.26	-24.29	41.88	22.66	54.00	13.74	V

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Channel 157

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)
5458.200	42.64	-24.49	34.18	32.95	54.00	11.36	V
5459.150	42.64	-24.50	34.18	32.96	54.00	11.36	V
11570.000	34.19	-30.11	38.93	25.37	54.00	19.81	H
17784.000	39.62	-23.95	41.72	21.85	54.00	14.38	H
17956.000	40.09	-24.18	41.81	22.46	54.00	13.91	V
17989.500	40.25	-24.29	41.88	22.66	54.00	13.75	V

Channel 165

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)
5457.600	42.68	-24.49	34.18	32.98	54.00	11.32	V
5458.950	42.68	-24.50	34.18	32.99	54.00	11.32	V
11650.000	34.11	-29.97	38.85	25.22	54.00	19.89	V
17817.500	39.63	-23.98	41.70	21.91	54.00	14.37	H
17954.500	40.06	-24.18	41.81	22.43	54.00	13.94	V
17990.500	40.27	-24.29	41.88	22.68	54.00	13.73	H

802.11ac-VHT40

Channel 151

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)
5438.750	42.81	-24.50	34.20	33.11	54.00	11.19	V
5449.200	42.87	-24.44	34.20	33.11	54.00	11.13	V
11510.000	34.47	-30.13	38.99	25.61	54.00	19.53	H
17822.000	39.65	-24.01	41.70	21.96	54.00	14.35	H
17951.500	40.01	-24.17	41.80	22.38	54.00	13.99	H
17990.000	40.25	-24.29	41.88	22.66	54.00	13.75	V

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Channel 159

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)
5437.100	42.71	-24.51	34.20	33.02	54.00	11.29	V
5454.050	42.80	-24.46	34.19	33.07	54.00	11.20	V
11590.000	34.20	-30.23	38.91	25.52	54.00	19.80	V
17783.500	39.66	-23.95	41.72	21.90	54.00	14.34	V
17959.500	40.05	-24.19	41.82	22.42	54.00	13.96	H
17988.500	40.15	-24.28	41.88	22.55	54.00	13.85	V

802.11ac-VHT80

Channel 155

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)
5450.100	43.01	-24.44	34.20	33.24	54.00	11.00	V
5463.550	42.72	-24.53	34.17	33.07	54.00	11.28	V
11550.000	34.20	-29.98	38.95	25.24	54.00	19.80	V
17781.500	39.72	-23.97	41.72	21.97	54.00	14.28	V
17957.000	40.09	-24.19	41.81	22.46	54.00	13.91	V
17987.000	40.29	-24.28	41.87	22.70	54.00	13.71	H

802.11ax-HE20

Channel 149

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)
5446.950	43.04	-24.46	34.20	33.30	54.00	10.96	V
5452.850	43.05	-24.46	34.19	33.31	54.00	10.95	V
11490.000	34.13	-30.15	38.98	25.30	54.00	19.87	V
17816.500	39.65	-23.97	41.70	21.92	54.00	14.35	V
17955.500	40.04	-24.18	41.81	22.41	54.00	13.96	H
17992.500	40.30	-24.30	41.89	22.71	54.00	13.70	H

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Channel 157

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)
5458.900	42.70	-24.50	34.18	33.01	54.00	11.30	V
5459.550	42.72	-24.50	34.18	33.04	54.00	11.28	V
11570.000	34.18	-30.11	38.93	25.36	54.00	19.82	H
17787.500	39.62	-23.93	41.71	21.83	54.00	14.39	H
17955.000	40.10	-24.18	41.81	22.47	54.00	13.90	V
17985.500	40.20	-24.27	41.87	22.60	54.00	13.81	H

Channel 165

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)
5459.100	42.59	-24.50	34.18	32.91	54.00	11.41	V
5459.700	42.66	-24.50	34.18	32.98	54.00	11.34	V
11650.000	34.14	-29.97	38.85	25.25	54.00	19.86	H
17923.000	39.65	-24.15	41.75	22.05	54.00	14.35	H
17959.000	40.04	-24.19	41.82	22.41	54.00	13.96	V
17988.000	40.18	-24.28	41.88	22.59	54.00	13.82	V

802.11ax-HE40

Channel 151

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)
5438.750	42.81	-24.50	34.20	33.11	54.00	11.19	V
5449.200	42.87	-24.44	34.20	33.11	54.00	11.13	V
11510.000	34.58	-30.13	38.99	25.73	54.00	19.42	H
17820.000	39.60	-24.00	41.70	21.90	54.00	14.40	V
17954.000	40.08	-24.18	41.81	22.45	54.00	13.92	V
17984.500	40.16	-24.27	41.87	22.56	54.00	13.84	V

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Channel 159

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)
5437.100	42.71	-24.51	34.20	33.02	54.00	11.29	V
5454.050	42.80	-24.46	34.19	33.07	54.00	11.20	V
11590.000	34.16	-30.23	38.91	25.48	54.00	19.84	V
17918.000	39.65	-24.15	41.74	22.06	54.00	14.35	H
17960.000	40.11	-24.20	41.82	22.49	54.00	13.89	H
17985.000	40.18	-24.27	41.87	22.58	54.00	13.82	H

802.11ax-HE80

Channel 155

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)
5445.750	42.84	-24.46	34.20	33.10	54.00	11.16	V
5453.650	42.86	-24.46	34.19	33.13	54.00	11.14	V
11550.000	34.08	-29.98	38.95	25.11	54.00	19.92	H
17790.500	39.67	-23.91	41.71	21.87	54.00	14.33	H
17956.000	40.11	-24.18	41.81	22.48	54.00	13.89	V
17990.500	40.33	-24.29	41.88	22.74	54.00	13.67	H

802.11ax-HE20 RU26

Channel 149

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)
5458.05	42.70	-24.49	34.18	33.01	54.00	11.30	V
5458.95	42.67	-24.50	34.18	32.99	54.00	11.33	V
11490.00	33.23	-30.73	37.97	25.98	54.00	20.78	V
16162.40	37.36	-25.82	40.84	22.34	54.00	16.64	H
17855.60	38.92	-23.54	40.50	21.97	54.00	15.08	V
17918.40	38.42	-23.42	40.52	21.32	54.00	15.59	V

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Channel 157

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)
5452.80	42.79	-24.46	34.19	33.05	54.00	11.21	V
5457.95	42.73	-24.49	34.18	33.04	54.00	11.27	V
11570.00	33.90	-30.55	38.14	26.31	54.00	20.10	H
16145.00	37.54	-25.92	40.85	22.60	54.00	16.46	H
17856.40	38.83	-23.54	40.50	21.87	54.00	15.17	H
17954.00	38.83	-23.36	40.55	21.63	54.00	15.17	V

Channel 165

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)
5450.50	42.80	-24.44	34.20	33.05	54.00	11.20	V
5452.65	42.78	-24.46	34.19	33.04	54.00	11.22	V
11650.00	34.00	-30.56	38.35	26.21	54.00	20.00	H
16143.60	37.45	-25.92	40.86	22.51	54.00	16.55	V
17756.80	38.68	-23.65	40.54	21.78	54.00	15.32	H
17850.40	38.78	-23.55	40.50	21.83	54.00	15.22	V

802.11ax-HE20 RU52

Channel 149

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)
5450.85	42.78	-24.44	34.20	33.03	54.00	11.22	V
5454.60	42.69	-24.47	34.19	32.97	54.00	11.31	V
11490.00	33.15	-30.73	37.97	25.91	54.00	20.85	V
16152.40	37.51	-25.88	40.85	22.54	54.00	16.49	H
17745.20	38.94	-23.65	40.55	22.04	54.00	15.06	H
17859.20	38.92	-23.54	40.50	21.96	54.00	15.08	H

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Channel 157

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)
5457.20	42.57	-24.49	34.19	32.86	54.00	11.44	V
5458.95	42.60	-24.50	34.18	32.91	54.00	11.40	V
11570.00	33.98	-30.55	38.14	26.39	54.00	20.02	H
16138.40	37.52	-25.95	40.86	22.61	54.00	16.48	H
17787.20	38.57	-23.64	40.51	21.70	54.00	15.43	V
17878.00	38.84	-23.50	40.50	21.84	54.00	15.16	V

Channel 165

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)
5441.85	42.48	-24.48	34.20	32.77	54.00	11.52	V
5456.25	42.49	-24.48	34.19	32.78	54.00	11.51	V
11650.00	34.10	-30.56	38.35	26.31	54.00	19.90	H
16145.25	37.45	-25.91	40.85	22.51	54.00	16.55	H
17756.55	38.68	-23.65	40.54	21.78	54.00	15.32	V
17850.75	38.65	-23.55	40.50	21.70	54.00	15.35	V

802.11ax-HE20 RU106

Channel 149

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)
5439.85	42.53	-24.49	34.20	32.82	54.00	11.47	V
5449.05	42.60	-24.44	34.20	32.84	54.00	11.41	V
11490.20	33.23	-30.73	37.97	25.98	54.00	20.78	V
16163.15	37.36	-25.82	40.84	22.34	54.00	16.64	V
17854.36	38.92	-23.55	40.50	21.97	54.00	15.08	V
17920.55	38.42	-23.42	40.52	21.31	54.00	15.59	V

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Channel 157

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)
5458.25	42.59	-24.49	34.18	32.90	54.00	11.41	V
5459.35	42.57	-24.50	34.18	32.89	54.00	11.43	V
11570.00	33.79	-30.55	38.14	26.19	54.00	20.22	H
16145.00	37.56	-25.92	40.85	22.62	54.00	16.44	H
17856.40	38.73	-23.54	40.50	21.77	54.00	15.27	H
17954.00	38.85	-23.36	40.55	21.65	54.00	15.15	V

Channel 165

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)
5450.55	42.59	-24.44	34.20	32.83	54.00	11.41	V
5458.40	42.48	-24.49	34.18	32.79	54.00	11.52	V
11490.45	33.31	-30.73	37.97	26.07	54.00	20.69	H
16163.55	37.43	-25.82	40.84	22.41	54.00	16.57	V
17854.36	38.92	-23.55	40.50	21.97	54.00	15.08	V
17920.55	38.42	-23.42	40.52	21.31	54.00	15.59	V

802.11ax-HE80 RU106

Channel 155

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)
5458.30	42.72	-24.49	34.18	33.03	54.00	11.28	V
5459.40	42.68	-24.50	34.18	33.00	54.00	11.32	V
11545.75	33.94	-30.60	38.09	26.44	54.00	20.06	H
17325.05	37.32	-24.20	40.77	20.75	54.00	16.68	V
17894.65	38.61	-23.47	40.50	21.58	54.00	15.39	H
17935.15	38.52	-23.39	40.54	21.38	54.00	15.48	H

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Peak Results：

802.11a

Channel 149

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)
5653.018	55.22	-24.33	34.20	45.36	70.43	15.21	H
5656.760	55.09	-24.33	34.20	45.23	73.20	18.11	H
11490.000	43.64	-30.15	38.98	25.48	68.30	24.66	V
17235.000	49.16	-24.43	41.57	16.84	68.30	19.14	H
17359.000	52.88	-24.39	41.88	13.39	68.30	15.42	V
17477.500	52.46	-24.20	42.00	13.74	68.30	15.84	H

Channel 157

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)
5755.600	53.68	-24.01	34.50	43.19	68.30	14.62	V
5818.800	54.31	-24.26	34.54	44.03	68.30	14.00	V
11570.000	43.84	-30.11	38.93	25.19	68.30	24.46	H
17321.000	52.66	-24.31	41.76	13.41	68.30	15.64	H
17355.000	49.60	-24.39	41.87	16.66	68.30	18.70	V
17573.000	53.59	-24.10	41.93	12.44	68.30	14.71	V

Channel 165

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)
5924.983	52.38	-24.51	34.80	42.09	68.21	15.83	V
5924.966	52.30	-24.51	34.80	42.01	68.23	15.92	V
11650.000	45.57	-29.97	38.85	23.24	68.30	22.73	V
17359.000	52.71	-24.39	41.88	13.56	68.30	15.59	V
17475.000	51.05	-24.22	42.00	15.17	68.30	17.25	V
17601.500	52.69	-23.98	41.90	13.19	68.30	15.61	V

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802.11n-HT20

Channel 149

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)
5651.109	54.17	-24.33	34.20	44.30	69.02	14.86	V
5651.868	54.55	-24.33	34.20	44.68	69.58	15.03	H
11490.000	44.43	-30.15	38.98	24.69	68.30	23.87	H
17235.000	48.65	-24.43	41.57	17.35	68.30	19.65	V
17284.500	52.18	-24.32	41.67	13.81	68.30	16.12	V
17448.500	52.45	-24.37	42.00	13.92	68.30	15.85	H

Channel 157

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)
5752.200	55.38	-24.01	34.50	44.89	68.30	12.92	H
5817.000	54.39	-24.26	34.53	44.11	68.30	13.91	V
11570.000	45.12	-30.11	38.93	23.92	68.30	23.18	H
17355.000	50.68	-24.39	41.87	15.58	68.30	17.62	H
17419.500	52.95	-24.38	42.00	13.42	68.30	15.35	V
17589.000	52.55	-24.03	41.91	13.39	68.30	15.75	H

Channel 165

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)
5924.943	53.26	-24.51	34.80	42.97	68.24	14.98	H
5924.960	53.40	-24.51	34.80	43.11	68.23	14.83	H
11650.000	44.46	-29.97	38.85	24.36	68.30	23.84	V
17475.000	50.19	-24.22	42.00	16.03	68.30	18.12	V
17497.000	53.23	-24.08	42.00	12.85	68.30	15.07	H
17504.500	53.04	-24.07	42.00	13.03	68.30	15.26	H

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802.11n-HT40

Channel 151

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)
5650.282	53.70	-24.33	34.20	43.84	68.41	14.71	V
5651.599	53.88	-24.33	34.20	44.01	69.38	15.51	H
11510.000	45.37	-30.13	38.99	23.75	68.30	22.93	V
17265.000	50.11	-24.40	41.63	15.92	68.30	18.19	V
17417.500	53.11	-24.38	42.00	13.27	68.30	15.19	V
17475.000	53.05	-24.22	42.00	13.17	68.30	15.25	V

Channel 159

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)
5920.653	54.42	-24.51	34.82	44.12	71.42	17.00	H
5923.482	54.64	-24.51	34.81	44.35	69.32	14.68	H
11590.000	44.18	-30.23	38.91	24.96	68.30	24.12	H
17385.000	49.74	-24.39	41.96	16.60	68.30	18.56	V
17424.500	52.77	-24.38	42.00	13.61	68.30	15.53	H
17504.500	53.25	-24.07	42.00	12.82	68.30	15.05	V

802.11ac-VHT20

Channel 149

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)
5651.834	54.35	-24.33	34.20	44.48	69.56	15.21	H
5655.070	54.95	-24.33	34.20	45.08	71.95	17.01	V
11490.000	44.34	-30.15	38.98	24.79	68.30	23.96	H
17235.000	49.90	-24.43	41.57	16.10	68.30	18.40	H
17349.000	52.78	-24.39	41.85	13.46	68.30	15.52	H
17463.500	52.37	-24.29	42.00	13.92	68.30	15.93	H

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Channel 157

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)
5752.800	55.31	-24.01	34.50	44.82	74.00	18.69	H
5833.200	54.45	-24.34	34.57	44.22	68.30	13.85	V
11570.000	44.96	-30.11	38.93	24.08	68.30	23.34	V
17088.500	53.87	-24.18	41.37	11.67	68.30	14.43	V
17355.000	50.79	-24.39	41.87	15.48	68.30	17.52	H
17440.500	53.09	-24.37	42.00	13.28	68.30	15.21	V

Channel 165

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)
5924.845	53.45	-24.51	34.80	43.17	68.31	14.86	V
5925.000	53.45	-24.51	34.80	43.16	68.20	14.75	H
11650.000	44.28	-29.97	38.85	24.53	68.30	24.02	H
17016.500	52.23	-24.57	41.15	13.49	68.30	16.07	H
17348.500	52.97	-24.39	41.85	13.27	68.30	15.33	H
17475.000	51.41	-24.22	42.00	14.81	68.30	16.89	V

802.11ac-VHT40

Channel 151

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)
5650.046	53.35	-24.33	34.20	43.48	68.23	14.88	H
5650.316	53.71	-24.33	34.20	43.84	68.43	14.72	V
11510.000	44.41	-30.13	38.99	24.72	68.30	23.89	H
17265.000	49.35	-24.40	41.63	16.68	68.30	18.95	H
17350.500	52.28	-24.40	41.85	13.96	68.30	16.02	H
17520.000	52.24	-24.12	41.98	13.86	68.30	16.06	H

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Channel 159

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)
5924.713	54.07	-24.51	34.80	43.78	68.41	14.34	V
5924.281	54.24	-24.51	34.80	43.94	68.73	14.50	H
11590.000	45.11	-30.23	38.91	24.03	68.30	23.19	H
17343.000	51.79	-24.38	41.83	14.42	68.30	16.51	H
17385.000	49.83	-24.39	41.96	16.51	68.30	18.47	H
17402.000	51.96	-24.38	42.00	14.42	68.30	16.34	H

802.11ac-VHT80

Channel 155

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)
5651.219	54.82	-24.33	34.20	44.95	68.30	13.48	H
5809.400	55.37	-24.22	34.52	45.07	68.30	12.93	H
11550.000	44.44	-29.98	38.95	35.48	68.30	23.86	V
17325.000	49.99	-24.33	41.78	32.54	68.30	18.31	H
17386.500	53.74	-24.38	41.96	36.17	68.30	14.56	H
17457.000	52.87	-24.33	42.00	35.19	68.30	15.44	H

802.11ax-HE 20

Channel 149

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)
5651.440	55.00	-24.33	34.20	45.13	69.27	14.26	V
5653.010	53.97	-24.33	34.20	44.10	70.43	16.46	V
11490.000	43.89	-30.15	38.98	25.23	68.30	24.41	V
17235.000	50.16	-24.43	41.57	15.84	68.30	18.14	V
17435.000	52.75	-24.38	42.00	13.63	68.30	15.55	H
17569.500	52.89	-24.12	41.93	13.16	68.30	15.41	V

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Channel 157

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)
5752.800	55.82	-24.01	34.50	45.32	74.00	18.18	H
5817.000	55.09	-24.26	34.53	44.81	68.30	13.21	V
11570.000	43.62	-30.11	38.93	25.41	68.30	24.68	V
17355.000	48.62	-24.39	41.87	17.64	68.30	19.68	V
17581.000	53.57	-24.07	41.92	12.42	68.30	14.73	V
17635.500	53.08	-23.88	41.86	12.66	68.30	15.22	H

Channel 165

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)
5924.943	53.93	-24.51	34.80	43.64	68.24	14.31	V
5924.954	53.43	-24.51	34.80	43.14	68.23	14.81	V
11650.000	44.84	-29.97	38.85	23.98	68.30	23.46	V
17320.000	52.39	-24.31	41.76	13.69	68.30	15.91	V
17465.500	53.28	-24.28	42.00	13.00	68.30	15.02	V
17475.000	49.57	-24.22	42.00	16.64	68.30	18.73	H

802.11ax-HE40

Channel 151

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)
5650.046	53.35	-24.33	34.20	43.48	68.23	14.88	V
5650.316	53.71	-24.33	34.20	43.84	68.43	14.72	V
11510.000	45.08	-30.13	38.99	24.05	68.30	23.22	H
17093.000	52.55	-24.15	41.38	12.98	68.30	15.76	V
17265.000	49.71	-24.40	41.63	16.32	68.30	18.59	V
17506.500	53.29	-24.08	41.99	12.78	68.30	15.01	V

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Channel 159

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)
5924.713	54.07	-24.51	34.80	43.78	68.41	14.34	V
5924.281	54.24	-24.51	34.80	43.94	68.73	14.50	V
11590.000	44.47	-30.23	38.91	24.67	68.30	23.83	H
17217.000	52.01	-24.39	41.53	13.91	68.30	16.29	H
17339.500	52.06	-24.37	41.82	14.12	68.30	16.24	H
17385.000	48.62	-24.39	41.96	17.72	68.30	19.68	V

802.11ax-HE80

Channel 155

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)
5650.512	54.18	-24.33	34.20	44.32	68.30	14.12	V
5922.563	54.35	-24.51	34.81	44.05	68.30	13.95	V
11550.000	43.77	-29.98	38.95	34.80	68.30	24.53	H
17278.000	52.71	-24.35	41.66	35.40	68.30	15.59	V
17325.000	49.72	-24.33	41.78	32.27	68.30	18.58	V
17548.000	52.56	-24.20	41.95	34.80	68.30	15.75	V

802.11ax-HE20 RU26

Channel 149

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)
5,650.06	53.11	-24.33	34.20	43.24	68.24	15.19	H
5,650.24	53.31	-24.33	34.20	43.44	68.37	14.99	H
11,489.65	45.36	-30.73	37.97	38.11	68.30	22.95	H
16,364.85	53.13	-25.42	41.03	37.51	68.30	15.17	H
17,130.45	52.89	-24.64	40.87	36.66	68.30	15.41	H
17,234.40	50.21	-24.36	40.80	33.77	68.30	18.09	H

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Channel 157

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)
5,745.00	55.54	-23.99	34.47	45.05	68.30	12.77	V
5,820.20	55.65	-24.27	34.54	45.38	68.30	12.65	V
11,569.40	45.50	-30.55	38.14	37.91	68.30	22.80	H
16,748.20	52.49	-25.19	41.40	36.28	68.30	15.81	H
17,258.60	52.71	-24.30	40.80	36.21	68.30	15.59	V
17,354.85	50.38	-24.17	40.75	33.81	68.30	17.92	V

Channel 165

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)
5,923.70	54.13	-24.51	34.80	43.84	69.16	14.17	V
5,924.14	53.79	-24.51	34.80	43.50	68.84	14.51	V
11,650.80	45.92	-30.56	38.35	38.12	68.30	22.38	H
16,590.90	52.39	-25.40	41.38	36.41	68.30	15.91	V
17,291.60	52.62	-24.22	40.80	36.04	68.30	15.68	V
17,472.55	50.83	-24.06	40.63	34.26	68.30	17.47	H

802.11ax-HE20 RU52

Channel 149

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)
5,650.87	53.40	-24.33	34.20	43.53	68.84	14.91	V
5,651.97	53.67	-24.33	34.20	43.80	69.65	14.63	V
11,489.65	45.23	-30.73	37.97	37.99	68.30	23.07	H
16,929.70	52.09	-24.63	41.24	35.49	68.30	16.21	V
17,038.05	52.65	-24.64	41.02	36.26	68.30	15.66	V
17,234.40	50.42	-24.36	40.80	33.98	68.30	17.88	V

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Channel 157

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)
5,650.24	53.29	-24.33	34.20	43.42	68.37	25.70	H
5,924.38	53.83	-24.51	34.80	43.54	68.66	14.47	V
11,571.05	46.35	-30.55	38.14	38.75	68.30	21.95	V
16,702.00	52.08	-25.25	41.50	35.84	68.30	16.22	V
16,928.05	52.51	-24.64	41.24	35.91	68.30	15.79	H
17,354.30	50.39	-24.18	40.75	33.82	68.30	17.91	H

Channel 165

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)
5,922.80	53.94	-24.51	34.81	43.64	69.83	14.37	H
5,924.40	54.28	-24.51	34.80	43.99	68.65	14.02	V
11,650.25	45.17	-30.56	38.35	37.38	68.30	23.13	H
17,474.75	50.14	-24.05	40.63	33.57	68.30	18.16	V
17,590.85	51.91	-23.78	40.60	35.08	68.30	16.40	V
17,234.15	51.81	-24.36	40.80	35.37	68.30	16.49	V

802.11ax-HE20 RU106

Channel 149

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)
5,651.24	52.96	-24.33	34.20	43.09	69.12	15.34	V
5,660.99	54.85	-24.34	34.20	44.98	76.34	13.45	H
11,489.55	45.43	-30.73	37.97	38.19	68.30	22.87	H
16,364.75	53.05	-25.42	41.03	37.43	68.30	15.26	H
17,159.65	51.98	-24.56	40.84	35.70	68.30	16.32	H
17,411.05	51.44	-24.13	40.69	34.88	68.30	16.86	H

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Channel 157

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)
5,650.15	53.21	-24.33	34.20	43.34	68.31	25.74	V
5,924.34	53.60	-24.51	34.80	43.30	68.69	14.71	V
11,570.85	46.28	-30.55	38.14	38.68	68.30	22.02	H
16,702.25	52.15	-25.25	41.50	35.90	68.30	16.16	V
16,638.25	51.96	-25.33	41.44	35.85	68.30	16.35	V
16,918.70	52.00	-24.67	41.26	35.41	68.30	16.30	V

Channel 165

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)
5,923.76	54.69	-24.51	34.80	44.40	69.12	13.61	H
5,924.93	54.20	-24.51	34.80	43.91	68.25	14.10	H
11,650.45	45.88	-30.56	38.35	38.08	68.30	22.42	V
16,590.75	52.50	-25.40	41.38	36.52	68.30	15.80	H
17,145.30	51.96	-24.60	40.85	35.70	68.30	16.35	H
17,235.56	51.88	-24.36	40.80	35.44	68.30	16.42	H

802.11ax-HE80 RU106

Channel 155

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)
5,650.20	53.07	-24.33	34.20	43.20	68.34	15.23	H
5,924.86	53.23	-24.51	34.80	42.94	68.31	15.07	V
11,550.25	46.96	-30.59	38.10	39.45	68.30	21.34	H
17,325.45	50.70	-24.20	40.77	34.12	68.30	17.60	V
16,764.35	52.60	-25.17	41.37	36.40	68.30	15.70	H
17,080.15	52.52	-24.66	40.94	36.24	68.30	15.78	H

Conclusion: PASS

Note:

1. The spurious emission above 18G is noise only.
2. All emissions below 30MHz are more than 20 dB below the limit.

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A.6. Band Edges Compliance

A6.1 Band Edges - Radiated

Measurement Limit:

Standard	Limit (dBm/MHz)	
FCC 47 CFR Part 15.407	at the band edge	27
	at 5 MHz above or below the band edge	15.6
	at 25 MHz above or below the band edge	10
	at 75 MHz or more above or below the band edge	-27
	note：Increasing linearly from point to point.	

Test setting:

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 3MHz

Calculation

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

Measurement Result:

EUT ID: UT19a

Mode	Channel	Test Results	Conclusion
802.11a	5745 MHz	Fig.1	P
	5825 MHz	Fig.2	P
802.11n HT20	5745 MHz	Fig.3	P
	5825 MHz	Fig.4	P
802.11n HT40	5755 MHz	Fig.5	P
	5795 MHz	Fig.6	P
802.11ac VHT20	5745 MHz	Fig.7	P
	5825 MHz	Fig.8	P
802.11ac VHT40	5755 MHz	Fig.9	P
	5795 MHz	Fig.10	P
802.11ac VHT80	5775 MHz	Fig.11 Fig.12	P
802.11ax HE20	5745 MHz	Fig.13	P
	5825 MHz	Fig.14	P
802.11ax HE40	5755 MHz	Fig.15	P
	5795 MHz	Fig.16	P
802.11ax	5775 MHz	Fig.17	P

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HE 80		Fig.18	
802.11ax HE20 RU26	5745 MHz	Fig.19	P
	5825 MHz	Fig.20	P
802.11ax HE20 RU52	5745 MHz	Fig.21	P
	5825 MHz	Fig.22	P
802.11ax HE20 RU106	5745 MHz	Fig.23	P
	5825 MHz	Fig.24	P
802.11ax HE80 RU106	5775 MHz	Fig.25 Fig.26	P

Note: The measurements were performed separately in chain1, chain2, and MIMO (chain1+chain2), and only the worst cases are shown in this section.

Conclusion: PASS

Test graphs as below:

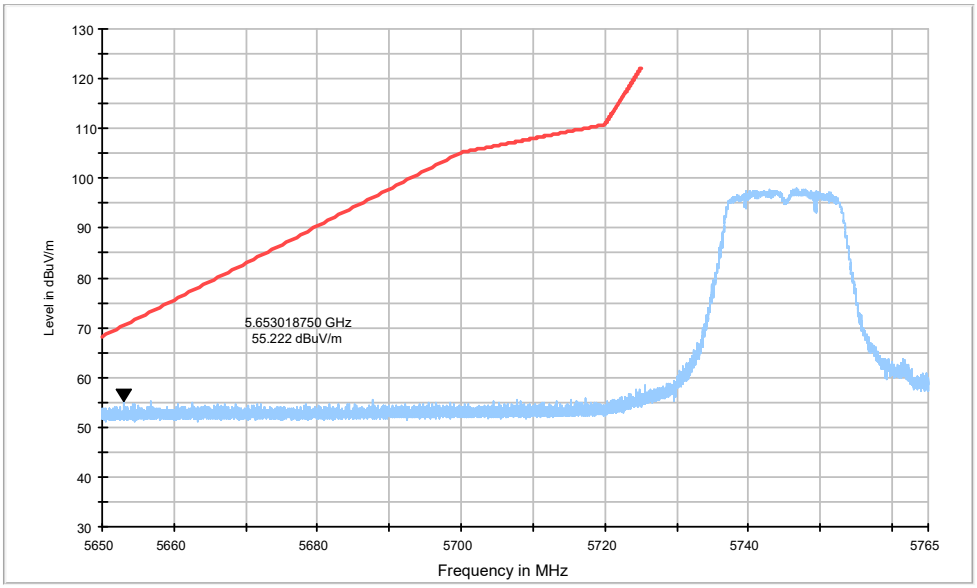

Fig. 1 Band Edges (802.11a Ch149, 5745MHz)

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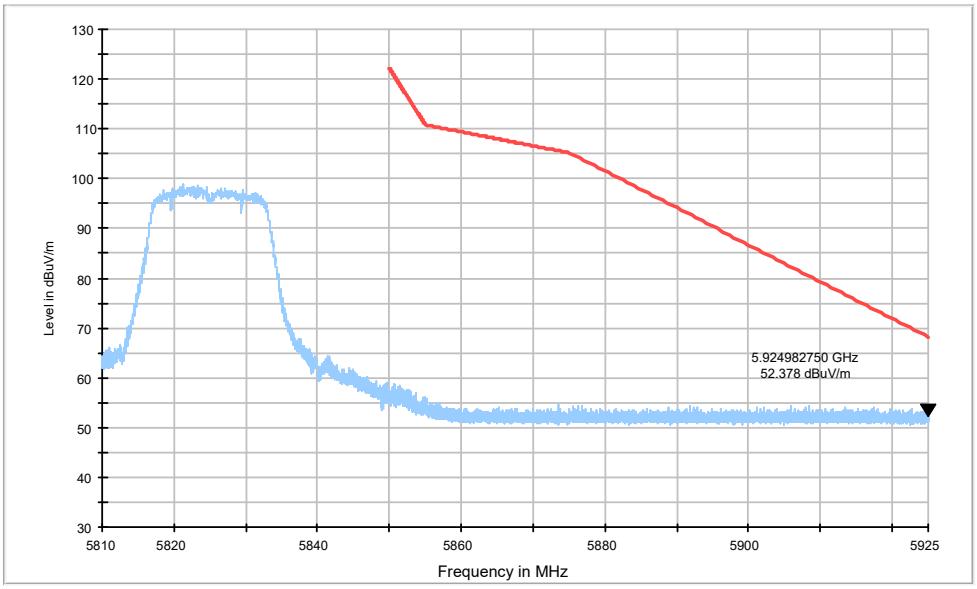

Fig. 2 Band Edges (802.11a Ch165, 5825MHz)

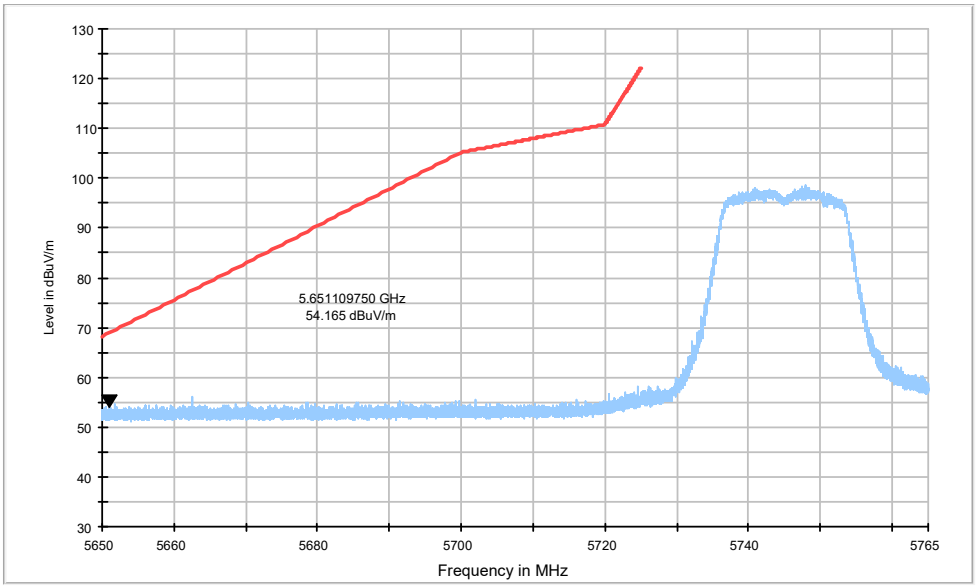

Fig. 3 Band Edges (802.11n-HT20 Ch149, 5745MHz)

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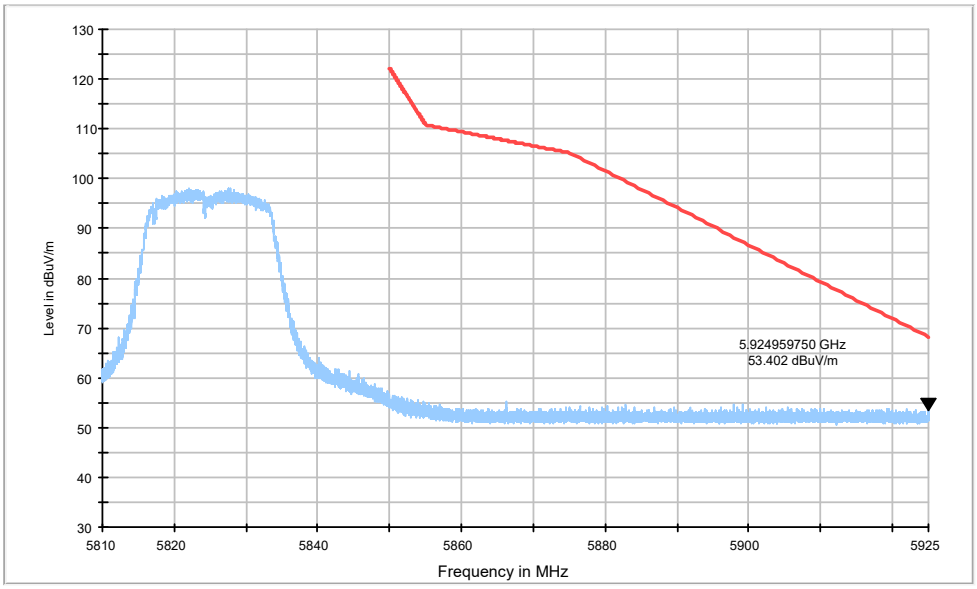

Fig. 4 Band Edges (802.11n-HT20 Ch165, 5825MHz)

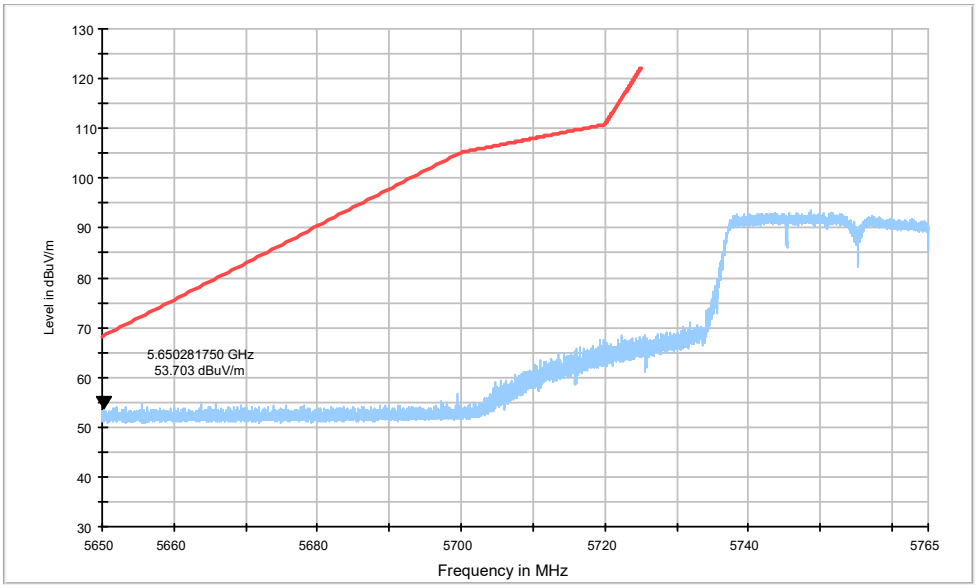

Fig. 5 Band Edges (802.11n-HT40 Ch151, 5755MHz)

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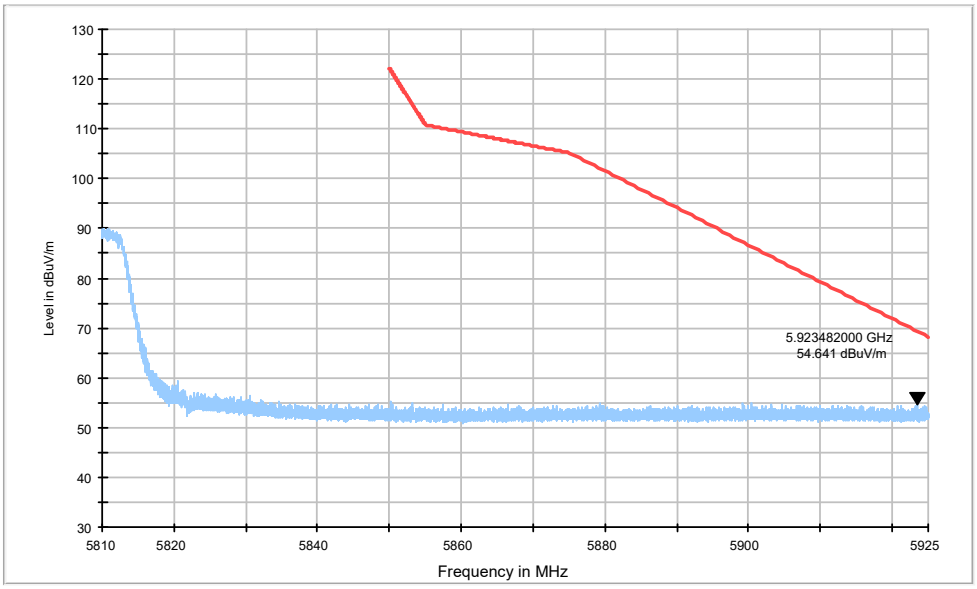

Fig. 6 Band Edges (802.11n-HT40 Ch159, 5795MHz)

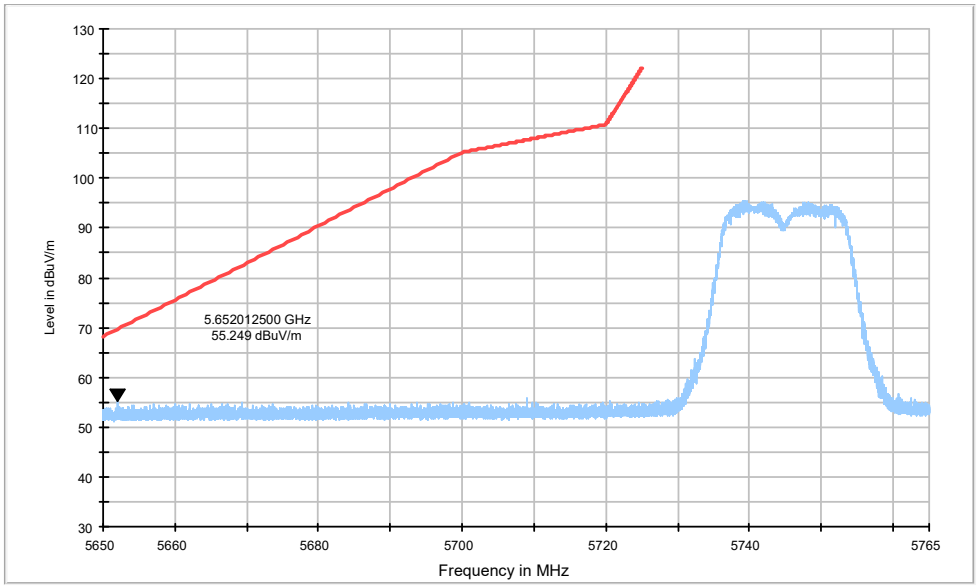

Fig. 7 Band Edges (802.11ac-VHT20 Ch149, 5745MHz)

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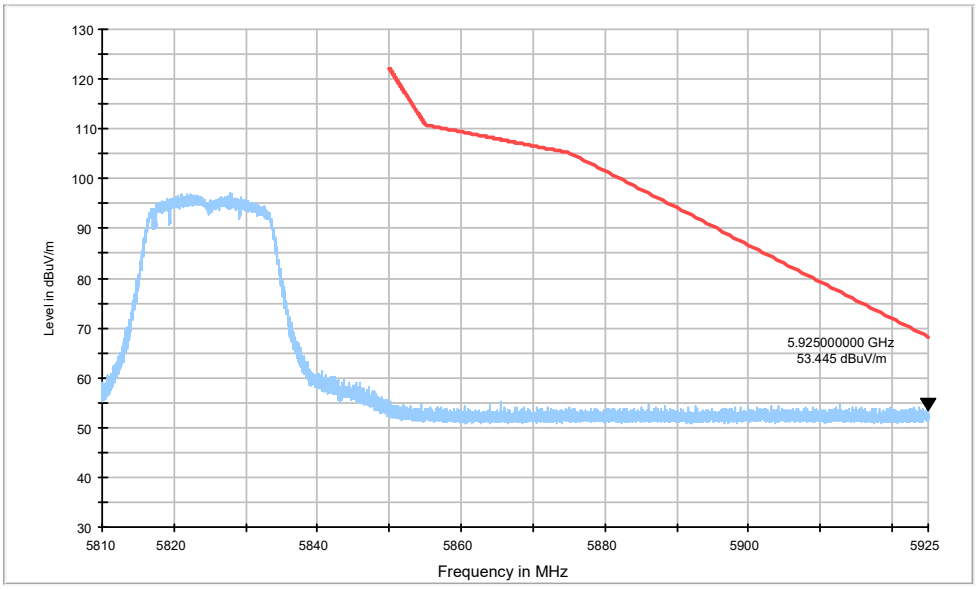

Fig. 8 Band Edges (802.11ac-VHT20 Ch165, 5825MHz)

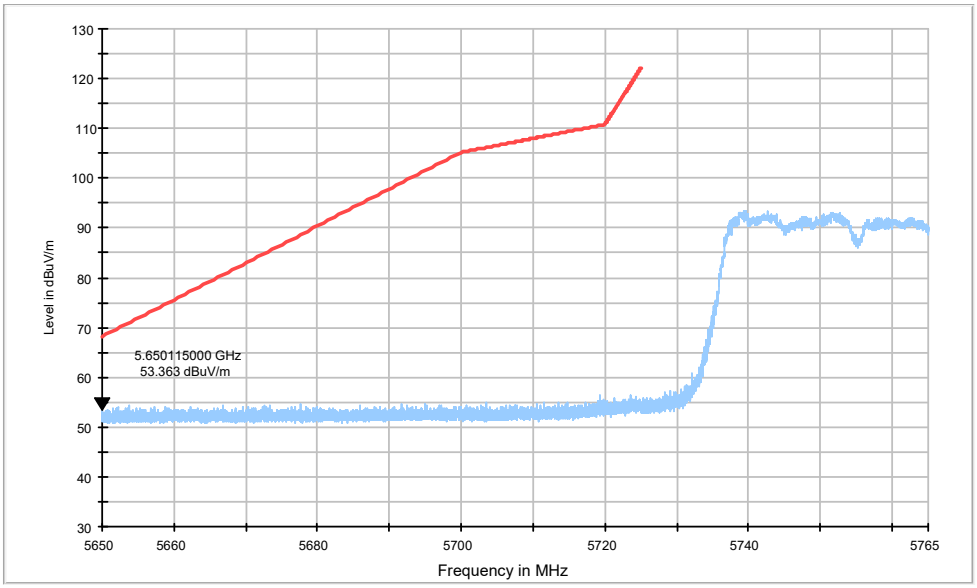

Fig. 9 Band Edges (802.11ac-VHT40 Ch151, 5755MHz)

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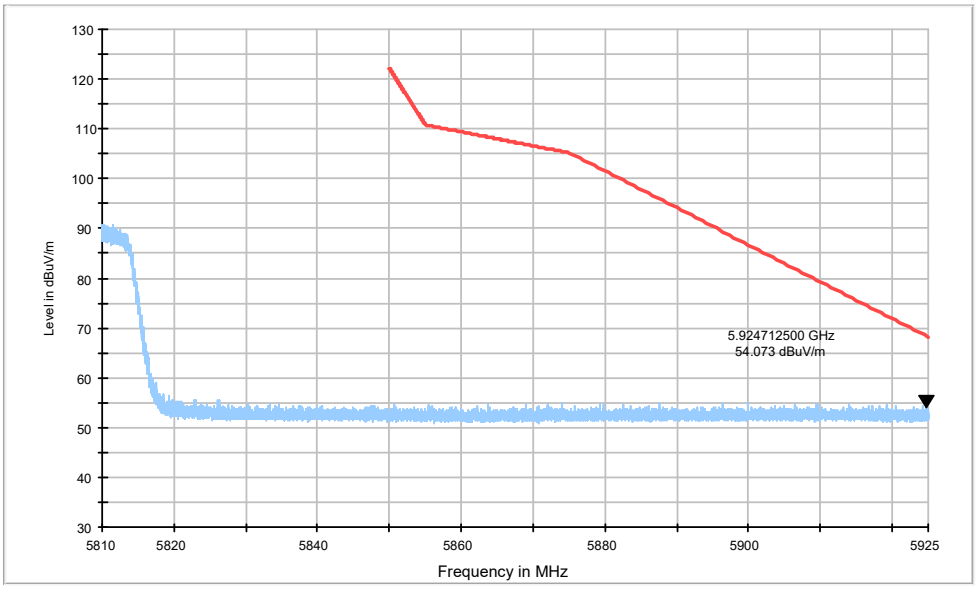

Fig. 10 Band Edges (802.11ac-VHT40 Ch159, 5795MHz)

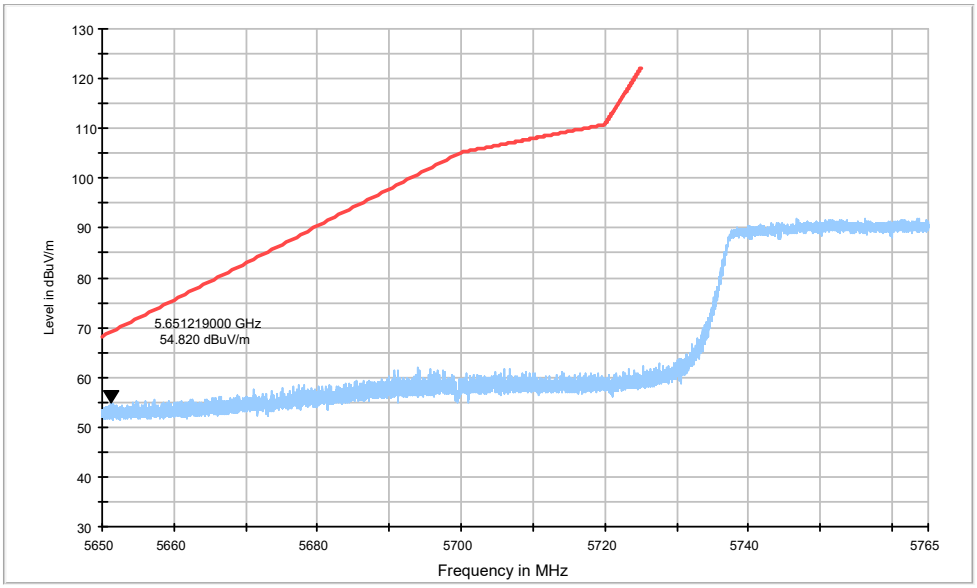

Fig. 11 Band Edges (802.11ac-VHT80 Ch155, 5775MHz)

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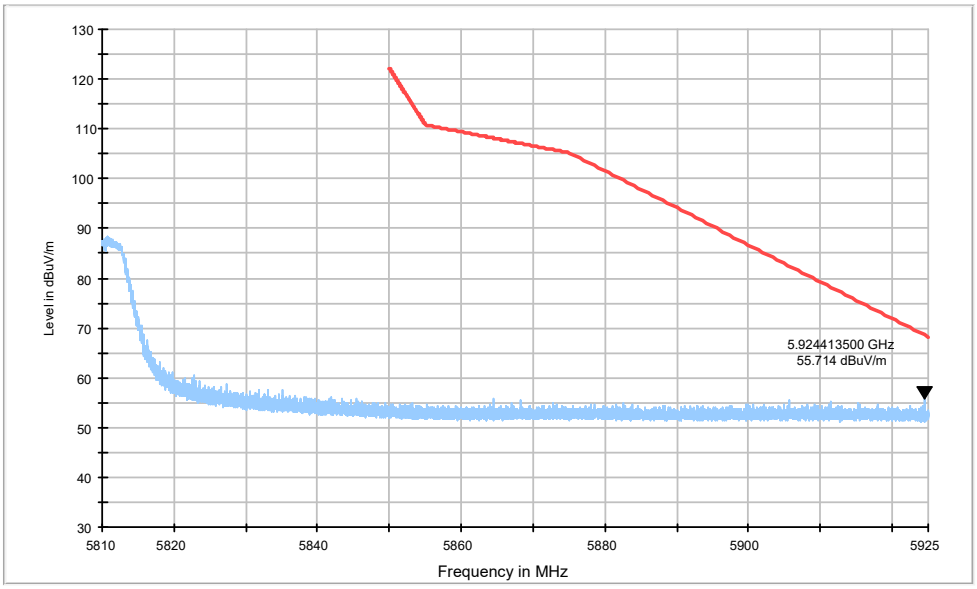

Fig. 12 Band Edges (802.11ac-VHT80, 5775MHz)

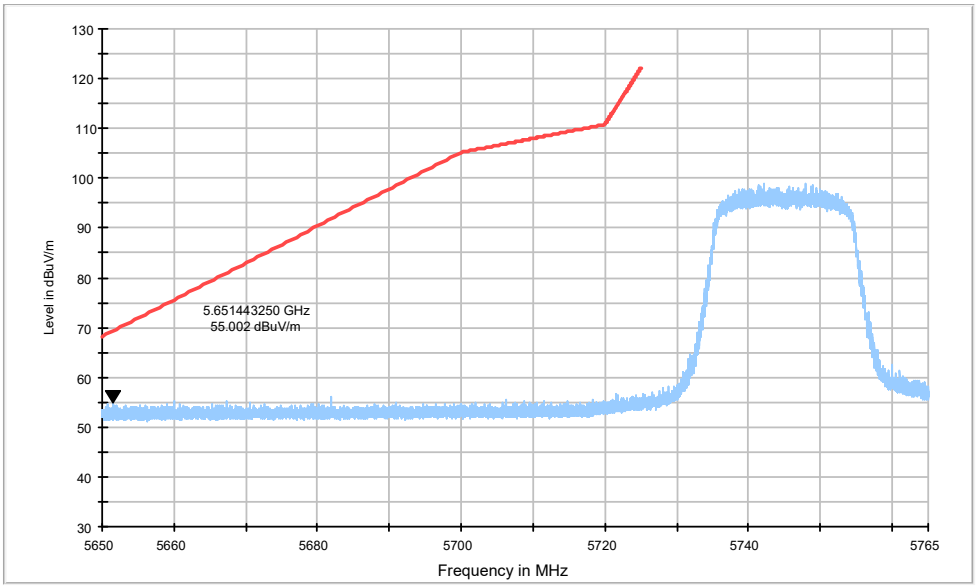

Fig. 13 Band Edges (802.11ax-HE20 Ch149, 5745MHz)

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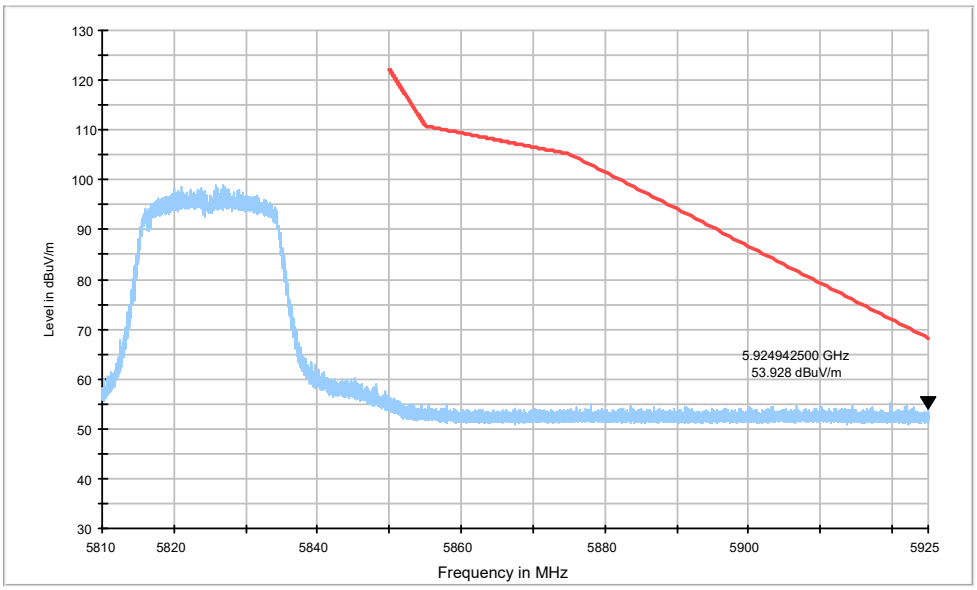

Fig. 14 Band Edges (802.11ax-HE20 Ch165, 5825MHz)

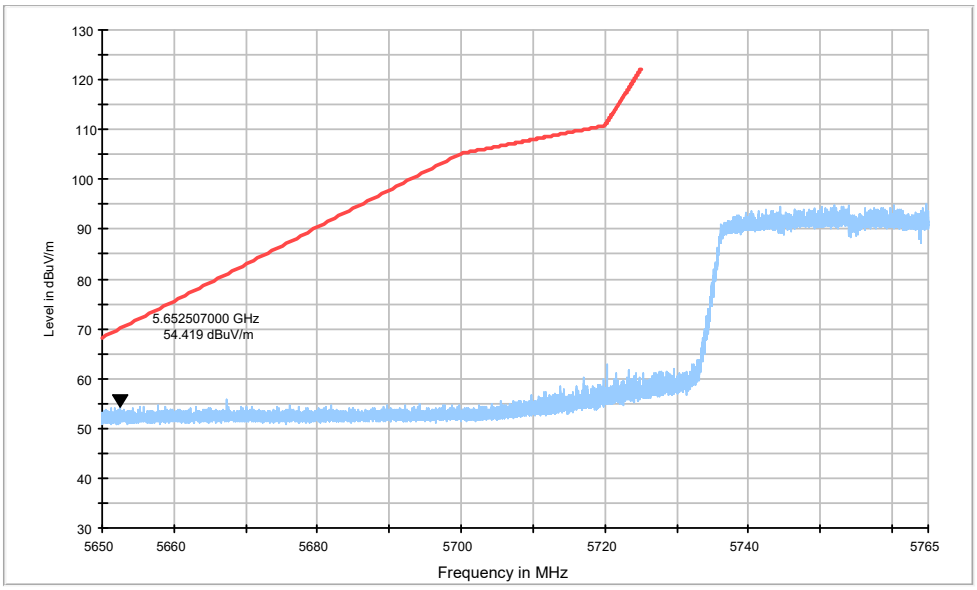

Fig. 15 Band Edges (802.11ax-HE40 Ch151, 5755MHz)

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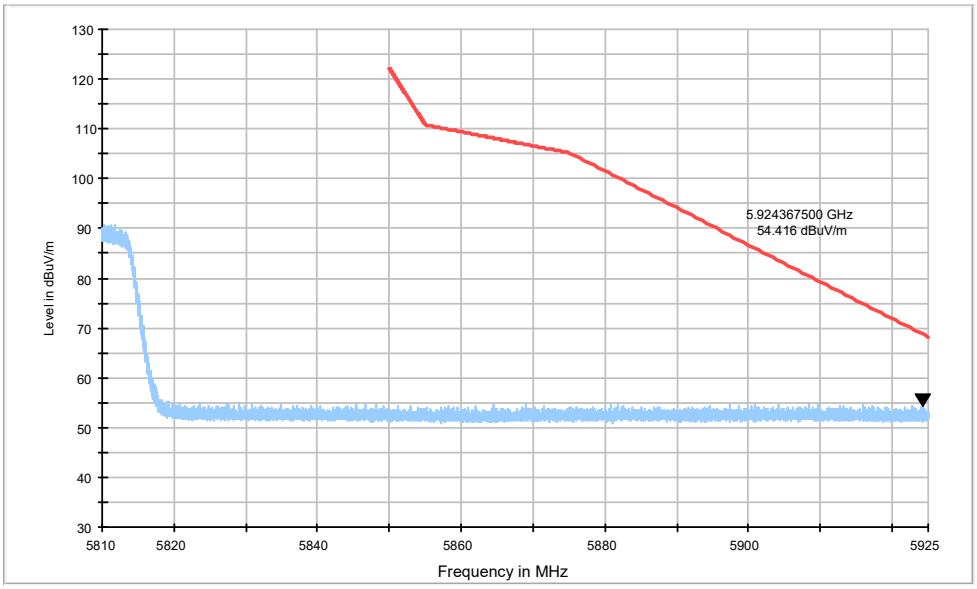

Fig. 16 Band Edges (802.11ax-HE40 Ch159, 5795MHz)

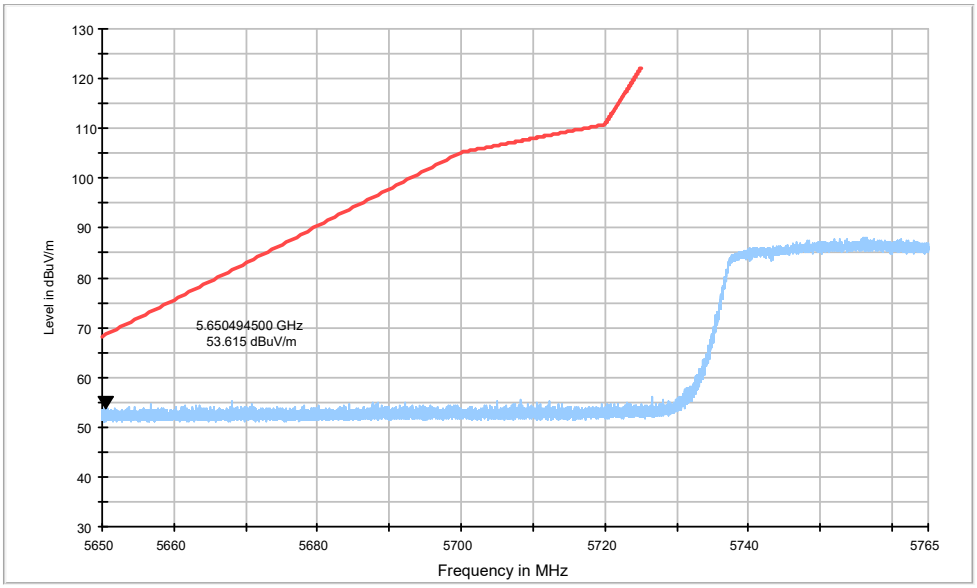

Fig. 17 Band Edges (802.11ax-HE80 Ch155, 5775MHz)

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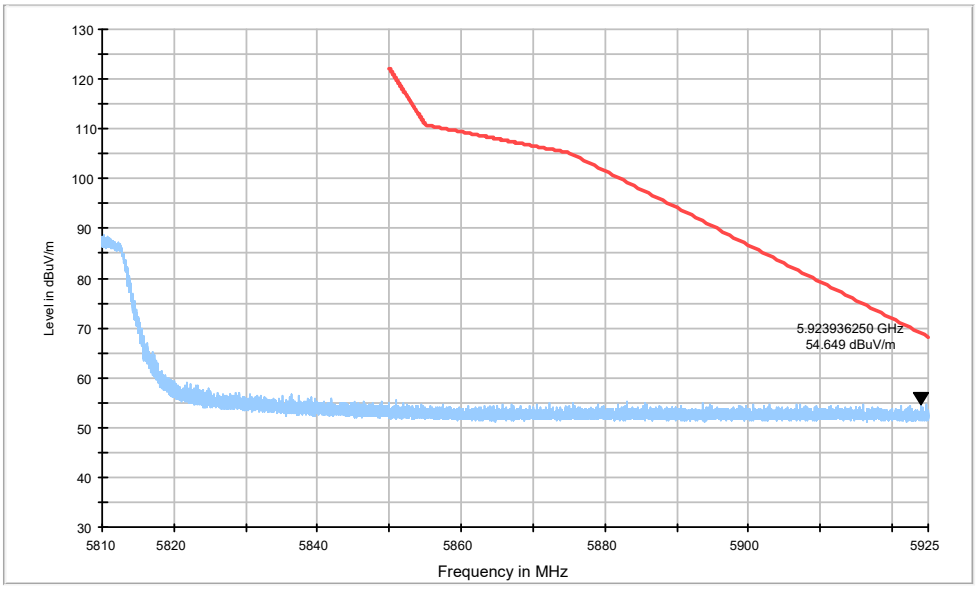

Fig. 18 Band Edges (802.11ax-HE80, 5775MHz)

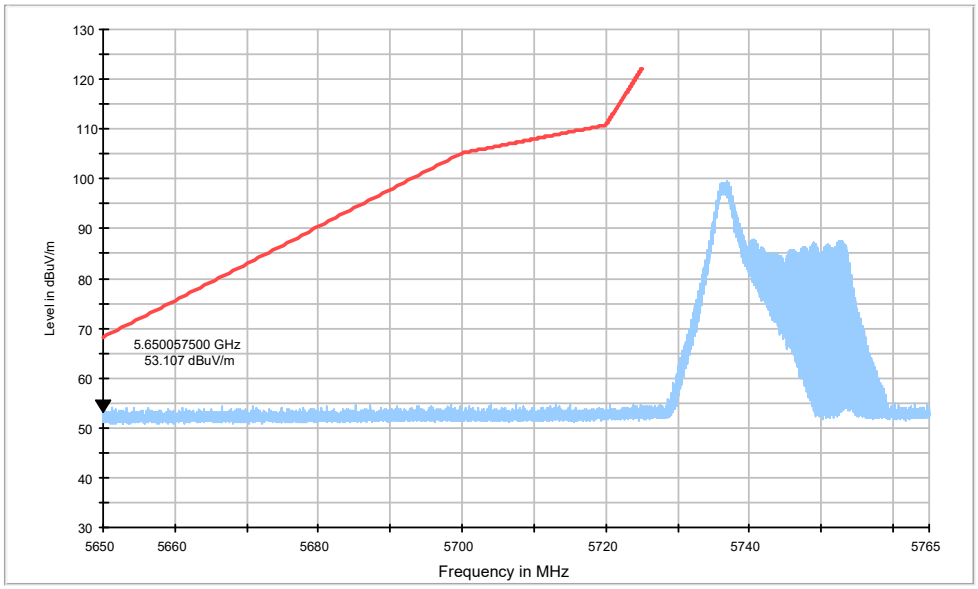

Fig. 19 Band Edges (802.11ax-HE20 Ch149, 5745MHz, RU26)

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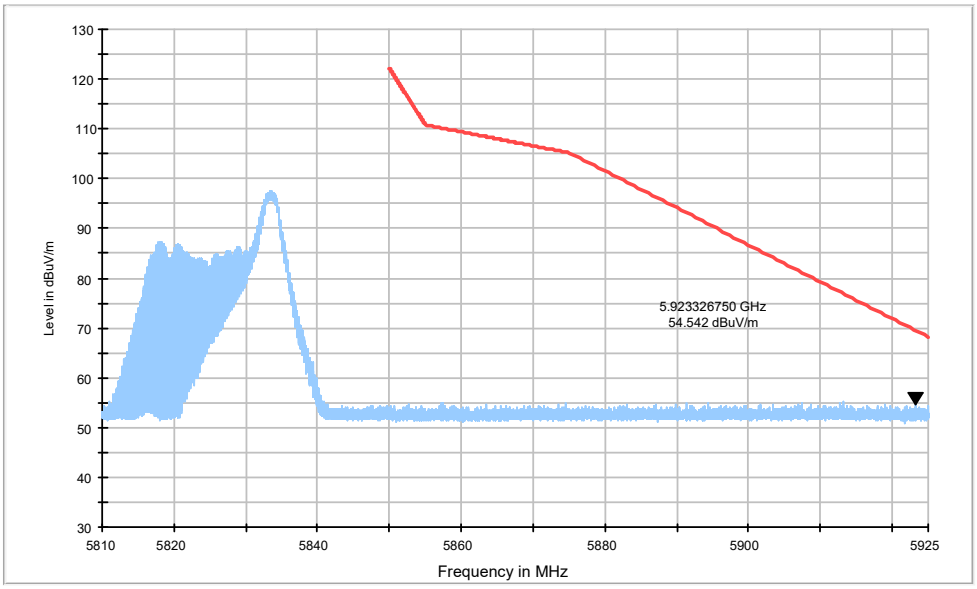

Fig. 20 Band Edges (802.11ax-HE20 Ch165, 5825MHz, RU26)

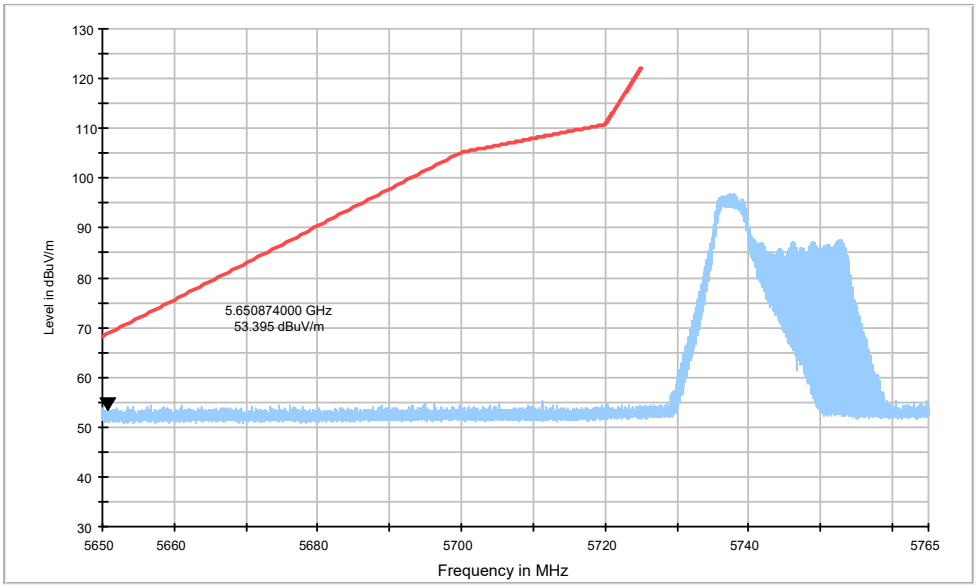

Fig. 21 Band Edges (802.11ax-HE20 Ch149, 5745MHz, RU52)

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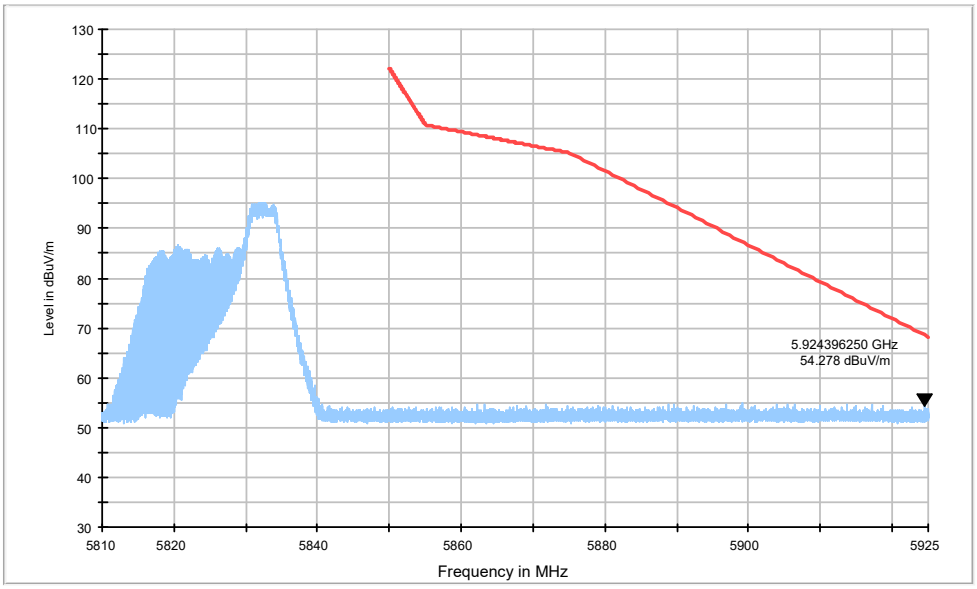

Fig. 22 Band Edges (802.11ax-HE20 Ch165, 5825MHz, RU52)

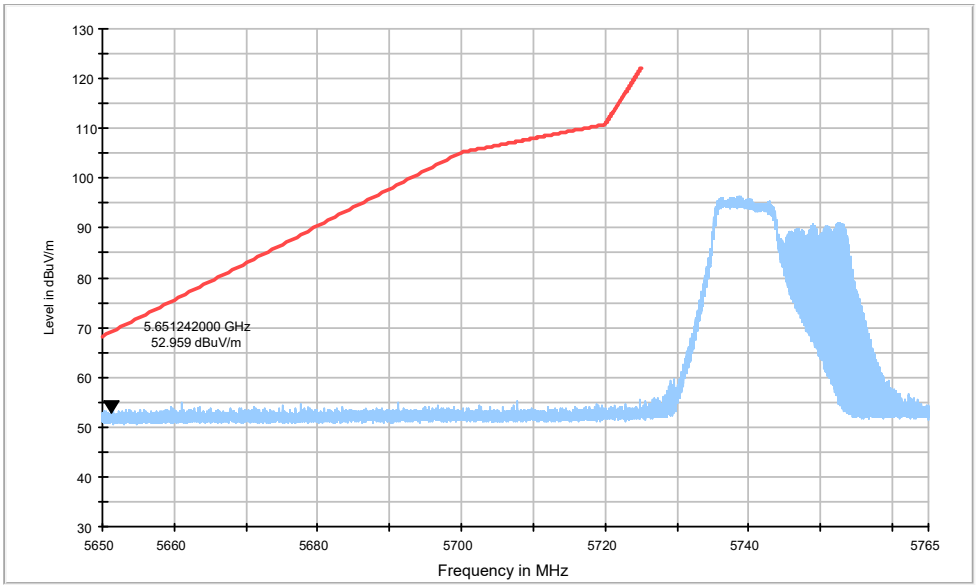

Fig. 23 Band Edges (802.11ax-HE20 Ch149, 5745MHz, RU106)

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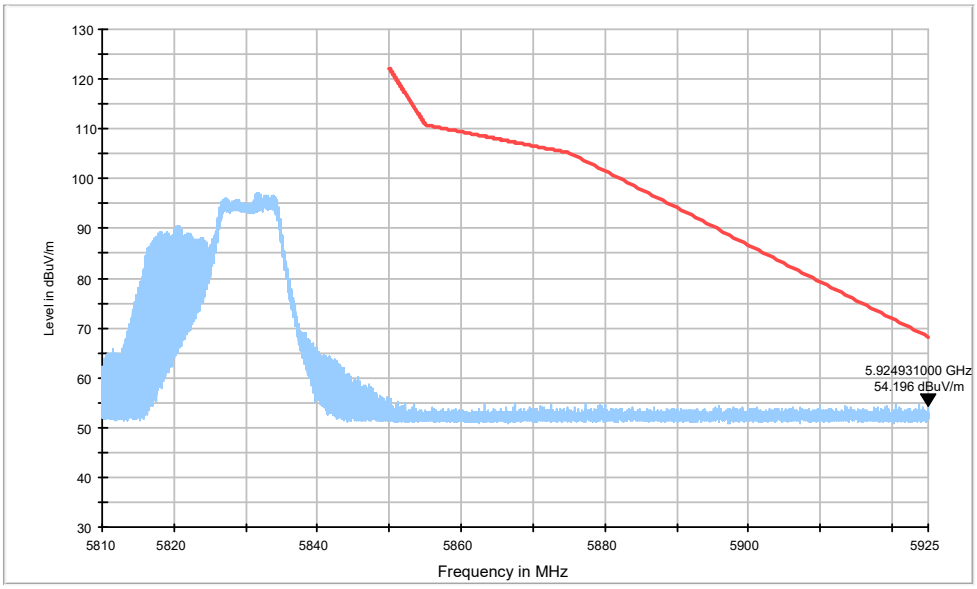

Fig. 24 Band Edges (802.11ax-HE20 Ch165, 5825MHz, RU106)

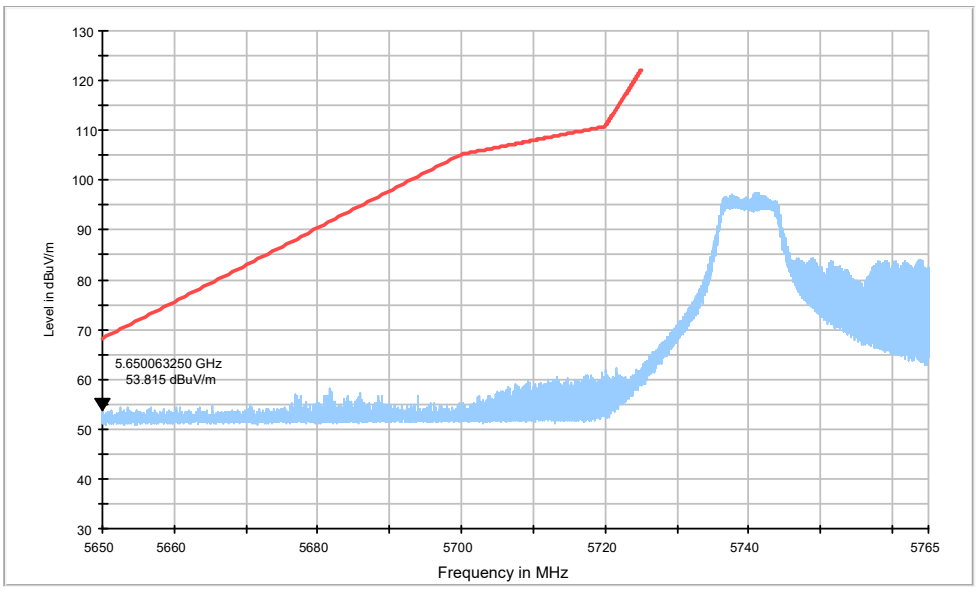

Fig. 25 Band Edges (802.11ax-HE80 Ch155, 5775MHz, RU106)

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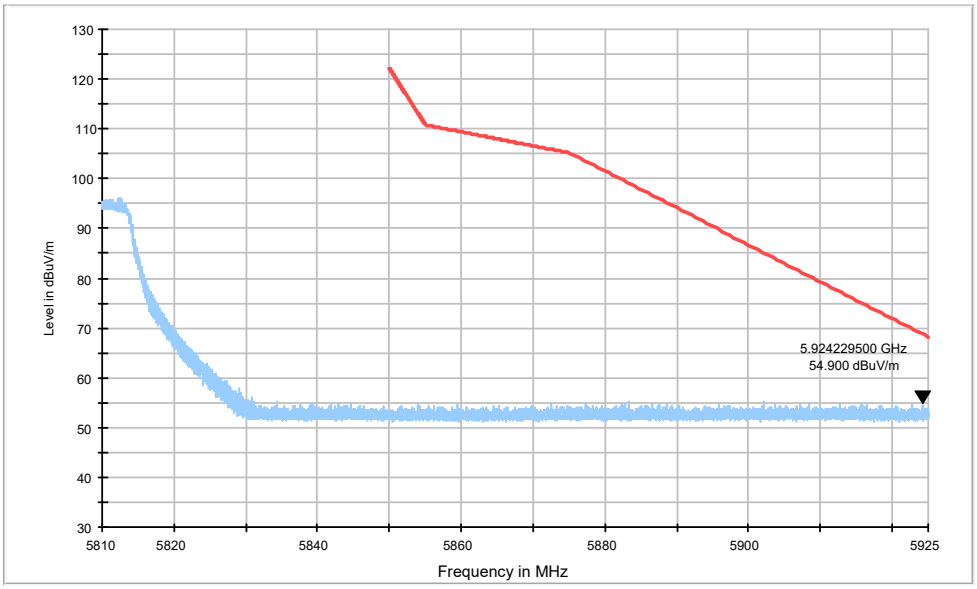

Fig. 26 Band Edges (802.11ax-HE80, 5775MHz, RU106)

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A.7. AC Powerline Conducted Emission

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.

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.

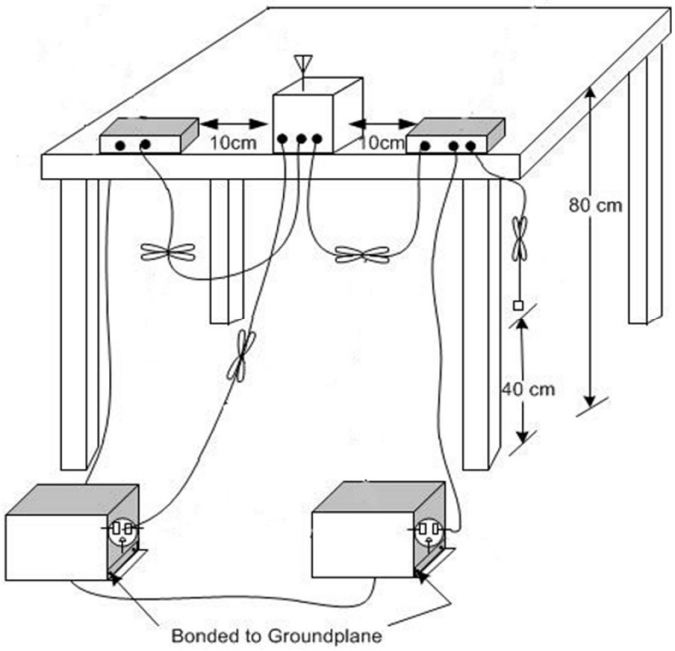
The measurement bandwidth is:

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

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Test setup



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Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11a	Idle	
0.15 to 0.5	66 to 56	Fig.27	Fig.28	**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		
		802.11a	Idle	
0.15 to 0.5	56 to 46	Fig.27	Fig.28	**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.				

The measurement is made according to ANSI C63.10.

Conclusion: PASS

Test graphs as below:

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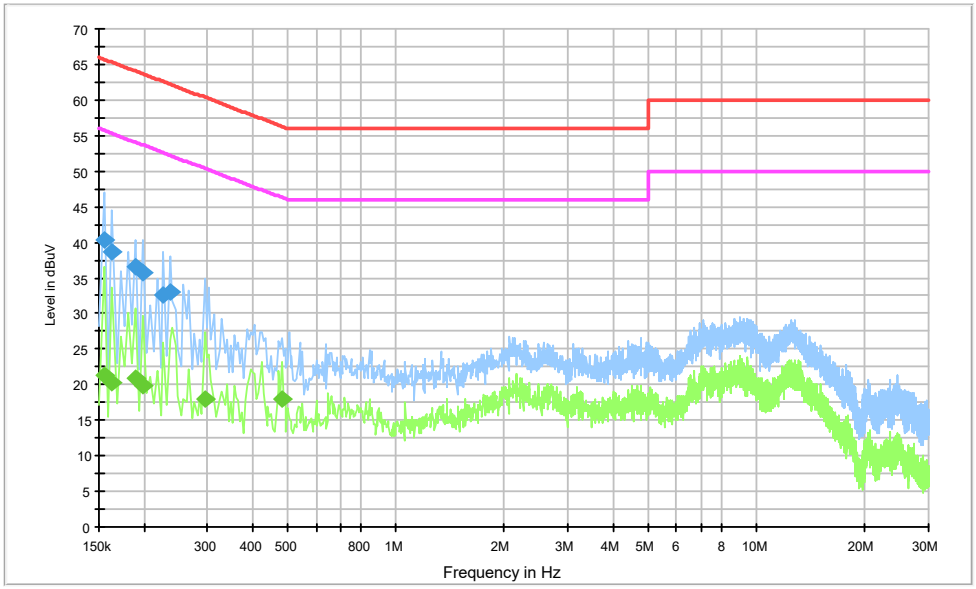

Fig. 27 AC Powerline Conducted Emission-802.11a

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	40.3	2000.0	9.000	Off	N	19.7	25.4	65.8
0.163500	38.6	2000.0	9.000	Off	N	19.7	26.6	65.3
0.190500	36.5	2000.0	9.000	Off	N	19.7	27.5	64.0
0.199500	35.7	2000.0	9.000	Off	N	19.7	28.0	63.6
0.226500	32.5	2000.0	9.000	Off	N	19.7	30.1	62.6
0.235500	32.9	2000.0	9.000	Off	L1	19.6	29.3	62.3

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	21.3	2000.0	9.000	Off	L1	19.7	34.4	55.8
0.163500	20.3	2000.0	9.000	Off	L1	19.7	35.0	55.3
0.190500	20.9	2000.0	9.000	Off	N	19.7	33.2	54.0
0.199500	19.8	2000.0	9.000	Off	N	19.7	33.8	53.6
0.294000	18.0	2000.0	9.000	Off	N	19.6	32.4	50.4
0.483000	17.9	2000.0	9.000	Off	N	19.6	28.3	46.3

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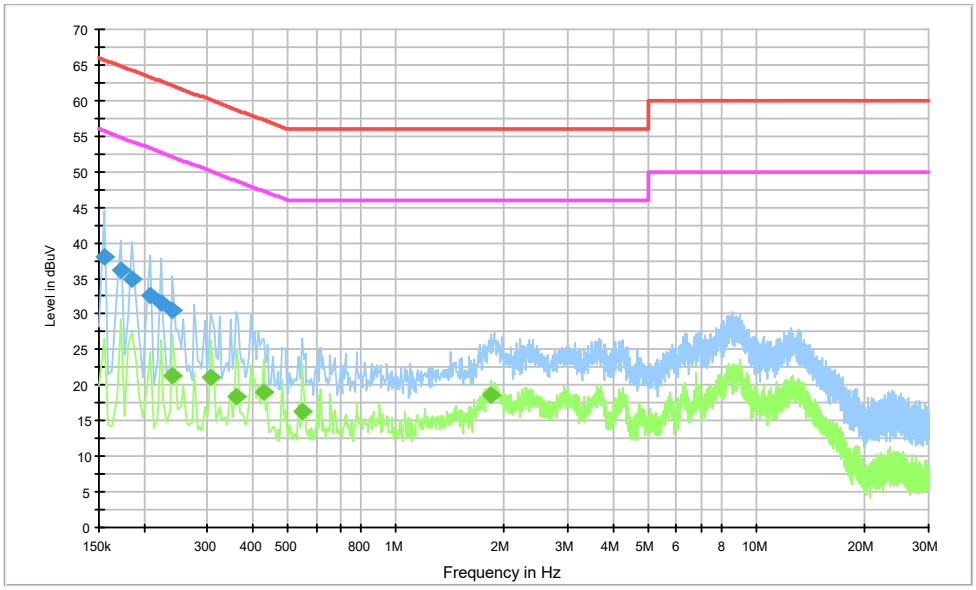

Fig. 28 AC Powerline Conducted Emission-Idle

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	38.1	2000.0	9.000	Off	N	19.7	27.6	65.8
0.172500	36.2	2000.0	9.000	Off	N	19.7	28.6	64.8
0.186000	34.8	2000.0	9.000	Off	N	19.7	29.4	64.2
0.208500	32.6	2000.0	9.000	Off	N	19.7	30.6	63.3
0.222000	31.5	2000.0	9.000	Off	N	19.7	31.2	62.7
0.240000	30.6	2000.0	9.000	Off	N	19.6	31.5	62.1

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.240000	21.4	2000.0	9.000	Off	L1	19.6	30.7	52.1
0.307500	21.2	2000.0	9.000	Off	N	19.7	28.9	50.0
0.361500	18.5	2000.0	9.000	Off	L1	19.6	30.2	48.7
0.429000	19.1	2000.0	9.000	Off	N	19.7	28.2	47.3
0.550500	16.3	2000.0	9.000	Off	N	19.6	29.7	46.0
1.842000	18.6	2000.0	9.000	Off	L1	19.7	27.4	46.0

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ANNEX B: EUT parameters

Disclaimer: The antenna gain 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

Accredited Laboratory

A2LA has accredited

TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 26th day of June 2023.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2024

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

***** END OF REPORT BODY *****

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