

appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

### **Exploratory radiated emissions measurements**

Exploratory radiated measurements shall be performed at the measurement distance or at a closer distance than that specified for compliance to determine the emission characteristics of the EUT and, if applicable, the EUT configuration that produces the maximum level of emissions. The frequencies of maximum emission may be determined by manually positioning the antenna close to the EUT, and then moving the antenna over all sides of the EUT while observing a spectral display. It is advantageous to have prior knowledge of the frequencies of emissions, although this may be determined from such a near-field scan. The near-field scan shall only be used to determine the frequency but not the amplitude of the emissions. Where exploratory measurements are not adequate to determine the worst-case operating modes and are used only to identify the frequencies of the highest emissions, additional preliminary tests can be required.

For emissions from the EUT, the maximum level shall be determined by rotating the EUT and its antenna through 0° to 360°. For each mode of operation required to be tested, the frequency spectrum (based on findings from exploratory measurements) shall be monitored.

Broadband antennas and a spectrum analyzer or a radio-noise meter with a panoramic display are often useful in this type of test. If either antenna height or EUT azimuth are not fully measured during exploratory testing, then complete testing can be required at the OATS or semi-anechoic chamber when the final full spectrum testing is performed.

### **Final radiated emissions measurements**

The final measurements are using the orientation and equipment arrangement of the EUT based on the measurement results found during the preliminary (exploratory) measurements, the EUT arrangement, appropriate modulation, and modes of operation that produce the emissions that have the highest amplitude relative to the limit shall be selected for the final measurement.

For each mode of operation required to be tested, the frequency spectrum (based on findings from exploratory measurements) shall be monitored. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.

For each mode selected, record the frequency and amplitude of the highest fundamental emission (if applicable), as well as the frequency and amplitude of the six highest spurious emissions relative to the limit. Emissions more than 20 dB below the limit do not need to be reported.

This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

### **The receiver references:**

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

$P_{Mea}$  is the field strength recorded from the instrument.

The measurement results are obtained as described below:

Result =  $P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$

Where:

$P_{Mea}$  field strength recorded from the instrument

**Test EUI ID: EUT8**

**Average**

**802.11a**

Channel 36

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17936.800	41.89	-25.50	46.66	20.73	54.00	12.11	V
17958.800	41.81	-25.50	46.66	20.65	54.00	12.19	H
14494.900	38.28	-28.59	42.46	24.41	54.00	15.72	H
12563.800	38.10	-31.05	38.99	30.16	54.00	15.90	V
5149.800	49.59	-27.61	33.67	43.53	54.00	4.41	V
5149.900	49.49	-27.61	33.67	43.43	54.00	4.51	V

Channel 40

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17934.500	41.94	-25.50	46.66	20.78	54.00	12.06	V
17967.000	41.90	-25.50	46.66	20.74	54.00	12.10	H
12572.600	38.32	-31.05	38.99	30.38	54.00	15.68	V
12566.000	38.08	-31.05	38.99	30.14	54.00	15.92	H
11970.900	36.74	-31.48	39.09	29.13	54.00	17.26	H
11973.600	36.54	-31.48	39.09	28.93	54.00	17.46	H

Channel 48

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17938.400	42.48	-25.50	46.66	21.32	54.00	11.52	H
17942.200	42.30	-25.50	46.66	21.14	54.00	11.70	V
12551.100	38.13	-31.05	38.99	30.19	54.00	15.87	V
12335.500	37.93	-31.10	38.94	30.09	54.00	16.07	V
11973.600	36.45	-31.48	39.09	28.84	54.00	17.55	V
11994.000	36.36	-31.48	39.09	28.75	54.00	17.64	V

## Channel 52

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17931.800	42.04	-25.50	46.66	20.88	54.00	11.96	H
17945.500	41.78	-25.50	46.66	20.62	54.00	12.22	V
12517.000	38.17	-31.22	38.91	30.48	54.00	15.83	H
12336.100	38.07	-31.10	38.94	30.23	54.00	15.93	V
11946.100	36.66	-31.48	39.09	29.05	54.00	17.34	V
11975.300	36.60	-31.48	39.09	28.99	54.00	17.40	V

## Channel 56

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17931.800	42.26	-25.50	46.66	21.10	54.00	11.74	H
17929.600	42.06	-25.50	46.66	20.90	54.00	11.94	H
12332.200	38.09	-31.10	38.94	30.25	54.00	15.91	H
14498.700	37.86	-28.59	42.46	23.99	54.00	16.14	V
11968.700	36.34	-31.48	39.09	28.73	54.00	17.66	H
11980.200	36.19	-31.48	39.09	28.58	54.00	17.81	V

## Channel 64

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17967.500	42.05	-25.50	46.66	20.89	54.00	11.95	H
17940.600	42.02	-25.50	46.66	20.86	54.00	11.98	H
12535.200	38.32	-31.05	38.99	30.38	54.00	15.68	V
12496.700	38.18	-31.22	38.91	30.49	54.00	15.82	H
5350.050	44.60	-25.80	34.30	36.02	54.00	9.40	V
5350.650	44.50	-25.80	34.30	35.97	54.00	9.50	V

## Channel 100

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17934.500	41.82	-25.50	46.66	20.66	54.00	12.18	V
17831.200	41.78	-25.50	46.66	20.62	54.00	12.22	V
12537.400	38.33	-31.05	38.99	30.39	54.00	15.67	H
12329.500	38.13	-31.10	38.94	30.29	54.00	15.87	H
5452.100	39.90	-25.40	34.40	30.86	54.00	14.10	V
5457.150	39.80	-25.30	34.40	30.74	54.00	14.20	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17974.700	41.83	-25.50	46.66	20.67	54.00	12.17	H
17972.000	41.68	-25.50	46.66	20.52	54.00	12.32	H
12528.600	38.21	-31.05	38.99	30.27	54.00	15.79	V
12524.200	38.09	-31.05	38.99	30.15	54.00	15.91	H
11969.200	36.39	-31.48	39.09	28.78	54.00	17.61	H
11977.000	36.39	-31.48	39.09	28.78	54.00	17.61	V

## Channel 140

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17969.800	42.22	-25.50	46.66	21.06	54.00	11.78	V
17952.200	41.90	-25.50	46.66	20.74	54.00	12.10	H
12493.400	38.42	-31.22	38.91	30.73	54.00	15.58	H
12542.400	38.40	-31.05	38.99	30.46	54.00	15.60	V
5659.400	41.90	-24.80	34.70	31.92	54.00	12.10	V
5741.500	41.60	-24.80	34.80	31.56	54.00	12.40	V

**802.11n-HT20**

## Channel 36

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17938.400	42.04	-25.50	46.66	20.88	54.00	11.96	H
17833.300	41.96	-25.50	46.66	20.80	54.00	12.04	V
12356.500	38.13	-31.10	38.94	30.29	54.00	15.87	H
12542.400	37.97	-31.05	38.99	30.03	54.00	16.03	V
5149.500	49.28	-27.61	33.67	43.22	54.00	4.72	V
5149.700	49.20	-27.61	33.67	43.14	54.00	4.80	V

## Channel 40

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17965.300	42.00	-25.50	46.66	20.84	54.00	12.00	H
17938.400	41.90	-25.50	46.66	20.74	54.00	12.10	H
12356.500	38.40	-31.10	38.94	30.56	54.00	15.60	V
12586.900	38.20	-31.05	38.99	30.26	54.00	15.80	H
11972.500	36.47	-31.48	39.09	28.86	54.00	17.53	V
11760.800	36.38	-31.99	38.98	29.39	54.00	17.62	H

## Channel 48

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17978.000	41.80	-25.50	46.66	20.64	54.00	12.20	H
17853.700	41.74	-25.50	46.66	20.58	54.00	12.26	H
12336.100	38.31	-31.10	38.94	30.47	54.00	15.69	H
12522.000	38.00	-31.05	38.99	30.06	54.00	16.00	V
11994.500	36.51	-31.48	39.09	28.90	54.00	17.49	V
11974.200	36.40	-31.48	39.09	28.79	54.00	17.60	V

## Channel 52

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17937.800	42.01	-25.50	46.66	20.85	54.00	11.99	V
17892.200	41.85	-25.50	46.66	20.69	54.00	12.15	V
12561.600	38.46	-31.05	38.99	30.52	54.00	15.54	H
12540.700	38.32	-31.05	38.99	30.38	54.00	15.68	V
11940.600	36.48	-31.48	39.09	28.87	54.00	17.52	V
11939.500	36.33	-31.48	39.09	28.72	54.00	17.67	V

## Channel 56

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17932.300	42.16	-25.50	46.66	21.00	54.00	11.84	H
17903.200	41.88	-25.50	46.66	20.72	54.00	12.12	H
12537.400	38.58	-31.05	38.99	30.64	54.00	15.42	H
12561.600	38.24	-31.05	38.99	30.30	54.00	15.76	H
11971.500	36.40	-31.48	39.09	28.79	54.00	17.60	H
11968.100	36.36	-31.48	39.09	28.75	54.00	17.64	H

## Channel 64

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17891.700	41.93	-25.50	46.66	20.77	54.00	12.07	H
17974.700	41.74	-25.50	46.66	20.58	54.00	12.26	H
12537.400	38.14	-31.05	38.99	30.20	54.00	15.86	H
12545.100	38.10	-31.05	38.99	30.16	54.00	15.90	H
5351.100	44.30	-25.80	34.30	35.71	54.00	9.70	V
5351.700	44.00	-25.80	34.30	35.45	54.00	10.00	V

## Channel 100

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17943.900	42.00	-25.50	46.66	20.84	54.00	12.00	H
17932.900	41.98	-25.50	46.66	20.82	54.00	12.02	V
12493.400	38.22	-31.22	38.91	30.53	54.00	15.78	V
12540.100	38.15	-31.05	38.99	30.21	54.00	15.85	V
5456.650	39.80	-25.30	34.40	30.76	54.00	14.20	V
5458.900	40.00	-25.30	34.40	30.97	54.00	14.00	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17958.800	41.97	-25.50	46.66	20.81	54.00	12.03	V
17936.800	41.79	-25.50	46.66	20.63	54.00	12.21	H
12351.000	38.20	-31.10	38.94	30.36	54.00	15.80	V
12499.500	38.01	-31.22	38.91	30.32	54.00	15.99	H
11999.500	36.25	-31.48	39.09	28.64	54.00	17.75	V
11991.200	36.14	-31.48	39.09	28.53	54.00	17.86	H

## Channel 140

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17940.000	41.86	-25.50	46.66	20.70	54.00	12.14	V
17898.800	41.79	-25.50	46.66	20.63	54.00	12.21	H
12493.400	38.10	-31.22	38.91	30.41	54.00	15.90	V
12496.100	38.03	-31.22	38.91	30.34	54.00	15.97	H
5653.050	41.30	-24.80	34.70	31.38	54.00	12.70	V
5736.150	41.90	-24.80	34.80	31.90	54.00	12.10	V

**802.11ac-HT20**

## Channel 36

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17962.000	42.02	-25.50	46.66	20.86	54.00	11.98	V
17931.800	41.95	-25.50	46.66	20.79	54.00	12.05	H
12563.800	38.13	-31.05	38.99	30.19	54.00	15.87	V
12356.500	38.02	-31.10	38.94	30.18	54.00	15.98	V
5149.800	50.47	-27.61	33.67	44.41	54.00	3.53	V
5149.700	50.45	-27.61	33.67	44.39	54.00	3.55	V

## Channel 40

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17976.300	41.95	-25.50	46.66	20.79	54.00	12.05	V
17932.300	41.85	-25.50	46.66	20.69	54.00	12.15	V
12359.800	38.46	-31.10	38.94	30.62	54.00	15.54	H
12563.800	38.34	-31.05	38.99	30.40	54.00	15.66	H
11965.400	36.52	-31.48	39.09	28.91	54.00	17.48	H
11969.800	36.24	-31.48	39.09	28.63	54.00	17.76	H

## Channel 48

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17936.200	42.03	-25.50	46.66	20.87	54.00	11.97	V
17954.900	42.03	-25.50	46.66	20.87	54.00	11.97	H
12550.600	38.25	-31.05	38.99	30.31	54.00	15.75	V
12325.100	38.19	-31.10	38.94	30.35	54.00	15.81	V
11770.700	36.40	-31.99	38.98	29.41	54.00	17.60	V
11929.100	36.40	-31.48	39.09	28.79	54.00	17.60	H

## Channel 52

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17935.100	42.05	-25.50	46.66	20.89	54.00	11.95	H
17965.300	42.04	-25.50	46.66	20.88	54.00	11.96	V
12561.600	38.22	-31.05	38.99	30.28	54.00	15.78	V
12420.200	38.06	-31.22	38.91	30.37	54.00	15.94	H
11985.800	36.56	-31.48	39.09	28.95	54.00	17.44	V
11992.400	36.50	-31.48	39.09	28.89	54.00	17.50	H



## Channel 56

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17936.800	41.95	-25.50	46.66	20.79	54.00	12.05	V
17958.800	41.92	-25.50	46.66	20.76	54.00	12.08	H
12563.800	38.53	-31.05	38.99	30.59	54.00	15.47	H
12353.100	38.44	-31.10	38.94	30.60	54.00	15.56	H
11970.400	36.81	-31.48	39.09	29.20	54.00	17.19	H
11993.500	36.67	-31.48	39.09	29.06	54.00	17.33	V

## Channel 64

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17970.300	42.27	-25.50	46.66	21.11	54.00	11.73	V
17973.000	41.87	-25.50	46.66	20.71	54.00	12.13	H
12535.200	38.71	-31.05	38.99	30.77	54.00	15.29	V
12535.800	37.98	-31.05	38.99	30.04	54.00	16.02	H
5350.000	44.70	-25.80	34.30	36.13	54.00	9.30	V
5350.950	44.40	-25.80	34.30	35.80	54.00	9.60	V

## Channel 100

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17954.900	41.83	-25.50	46.66	20.67	54.00	12.17	V
17897.200	41.69	-25.50	46.66	20.53	54.00	12.31	H
12559.400	38.62	-31.05	38.99	30.68	54.00	15.38	H
12542.400	38.48	-31.05	38.99	30.54	54.00	15.52	V
5454.800	39.80	-25.40	34.40	30.78	54.00	14.20	V
5457.800	40.00	-25.30	34.40	30.92	54.00	14.00	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17935.100	42.08	-25.50	46.66	20.92	54.00	11.92	H
17958.800	41.84	-25.50	46.66	20.68	54.00	12.16	H
12566.000	38.28	-31.05	38.99	30.34	54.00	15.72	V
12563.800	38.09	-31.05	38.99	30.15	54.00	15.91	V
11993.500	36.58	-31.48	39.09	28.97	54.00	17.42	H
11999.500	36.30	-31.48	39.09	28.69	54.00	17.70	V



## Channel 140

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17941.700	42.23	-25.50	46.66	21.07	54.00	11.77	H
17955.500	41.92	-25.50	46.66	20.76	54.00	12.08	V
12634.800	38.17	-31.05	38.99	30.23	54.00	15.83	H
12291.500	37.96	-31.10	38.94	30.12	54.00	16.04	V
5659.300	41.40	-24.80	34.70	31.49	54.00	12.60	V
5738.200	41.90	-24.80	34.80	31.88	54.00	12.10	V

**802.11n-HT40**

## Channel 38

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17962.000	42.78	-25.50	46.66	21.62	54.00	11.22	V
17936.200	42.11	-25.50	46.66	20.95	54.00	11.89	V
12542.400	38.78	-31.05	38.99	30.84	54.00	15.22	V
12540.700	38.13	-31.05	38.99	30.19	54.00	15.87	H
5149.900	52.00	-27.61	33.67	45.94	54.00	2.00	H
5149.200	51.94	-27.61	33.67	45.88	54.00	2.06	H

## Channel 46

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17934.000	41.84	-25.50	46.66	20.68	54.00	12.16	V
17939.000	41.81	-25.50	46.66	20.65	54.00	12.19	H
12566.000	38.21	-31.05	38.99	30.27	54.00	15.79	H
12535.200	38.10	-31.05	38.99	30.16	54.00	15.90	V
11989.000	36.48	-31.48	39.09	28.87	54.00	17.52	H
11949.500	36.12	-31.48	39.09	28.51	54.00	17.88	H

## Channel 54

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17945.500	42.09	-25.50	46.66	20.93	54.00	11.91	H
17980.800	41.90	-25.50	46.66	20.74	54.00	12.10	V
12561.600	38.19	-31.05	38.99	30.25	54.00	15.81	H
12492.300	38.14	-31.22	38.91	30.45	54.00	15.86	V
11963.800	36.66	-31.48	39.09	29.05	54.00	17.34	H
11998.400	36.40	-31.48	39.09	28.79	54.00	17.60	H

## Channel 62

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17936.800	41.98	-25.50	46.66	20.82	54.00	12.02	V
17932.300	41.88	-25.50	46.66	20.72	54.00	12.12	H
12545.600	38.83	-31.05	38.99	30.89	54.00	15.17	V
12563.800	38.23	-31.05	38.99	30.29	54.00	15.77	V
5350.150	49.20	-25.80	34.30	40.60	54.00	4.80	V
5350.700	49.10	-25.80	34.30	40.52	54.00	4.90	V

## Channel 102

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17950.000	42.08	-25.50	46.66	20.92	54.00	11.92	H
17967.000	41.95	-25.50	46.66	20.79	54.00	12.05	H
12542.400	38.39	-31.05	38.99	30.45	54.00	15.61	V
12557.200	38.21	-31.05	38.99	30.27	54.00	15.79	H
5456.150	40.00	-25.30	34.40	30.94	54.00	14.00	V
5458.200	40.10	-25.30	34.40	31.06	54.00	13.90	V

## Channel 118

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17961.500	42.08	-25.50	46.66	20.92	54.00	11.92	V
17971.400	41.77	-25.50	46.66	20.61	54.00	12.23	H
12537.400	38.12	-31.05	38.99	30.18	54.00	15.88	H
12540.700	38.05	-31.05	38.99	30.11	54.00	15.95	H
11991.200	36.65	-31.48	39.09	29.04	54.00	17.35	V
11999.500	36.37	-31.48	39.09	28.76	54.00	17.63	H

## Channel 134

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17865.800	41.64	-25.50	46.66	20.48	54.00	12.36	V
17942.200	41.62	-25.50	46.66	20.46	54.00	12.38	H
12559.400	38.31	-31.05	38.99	30.37	54.00	15.69	H
12539.600	38.22	-31.05	38.99	30.28	54.00	15.78	V
5616.900	41.20	-24.80	34.60	31.44	54.00	12.80	V
5720.250	41.80	-24.80	34.80	31.79	54.00	12.20	V

**802.11ac-HT40**

## Channel 38

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17959.300	41.92	-25.50	46.66	20.76	54.00	12.08	V
17891.100	41.90	-25.50	46.66	20.74	54.00	12.10	H
12349.900	38.24	-31.10	38.94	30.40	54.00	15.76	V
12356.500	38.19	-31.10	38.94	30.35	54.00	15.81	H
5149.900	52.95	-27.61	33.67	46.89	54.00	1.05	H
5149.700	52.06	-27.61	33.67	46.00	54.00	1.94	H

## Channel 46

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17953.200	41.90	-25.50	46.66	20.74	54.00	12.10	H
17869.100	41.89	-25.50	46.66	20.73	54.00	12.11	V
12540.100	38.41	-31.05	38.99	30.47	54.00	15.59	V
12332.800	38.13	-31.10	38.94	30.29	54.00	15.87	V
11967.000	36.36	-31.48	39.09	28.75	54.00	17.64	H
11987.400	36.29	-31.48	39.09	28.68	54.00	17.71	H

## Channel 54

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17924.700	41.99	-25.50	46.66	20.83	54.00	12.01	H
17866.900	41.98	-25.50	46.66	20.82	54.00	12.02	H
14489.400	38.62	-28.59	42.46	24.75	54.00	15.38	H
12517.000	37.94	-31.22	38.91	30.25	54.00	16.06	V
11994.500	36.43	-31.48	39.09	28.82	54.00	17.57	H
11996.200	36.33	-31.48	39.09	28.72	54.00	17.67	V

## Channel 62

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17938.400	41.91	-25.50	46.66	20.75	54.00	12.09	V
17928.000	41.88	-25.50	46.66	20.72	54.00	12.12	H
12563.800	38.80	-31.05	38.99	30.86	54.00	15.20	V
12353.100	38.47	-31.10	38.94	30.63	54.00	15.53	H
5350.100	49.60	-25.80	34.30	40.99	54.00	4.40	V
5350.350	49.50	-25.80	34.30	40.95	54.00	4.50	V

## Channel 102

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17970.800	42.03	-25.50	46.66	20.87	54.00	11.97	H
17964.200	41.70	-25.50	46.66	20.54	54.00	12.30	H
12500.000	38.06	-31.22	38.91	30.37	54.00	15.94	H
12332.800	38.01	-31.10	38.94	30.17	54.00	15.99	V
5454.150	39.90	-25.40	34.40	30.85	54.00	14.10	V
5458.800	39.90	-25.30	34.40	30.81	54.00	14.10	V

## Channel 118

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17968.100	41.99	-25.50	46.66	20.83	54.00	12.01	H
17945.500	41.90	-25.50	46.66	20.74	54.00	12.10	H
12559.400	38.46	-31.05	38.99	30.52	54.00	15.54	V
12313.500	38.04	-31.10	38.94	30.20	54.00	15.96	H
11871.400	36.34	-31.85	39.05	29.14	54.00	17.66	V
11839.500	36.22	-31.85	39.05	29.02	54.00	17.78	V

## Channel 134

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17936.800	41.93	-25.50	46.66	20.77	54.00	12.07	H
17866.900	41.85	-25.50	46.66	20.69	54.00	12.15	H
12564.900	38.31	-31.05	38.99	30.37	54.00	15.69	H
12544.500	38.05	-31.05	38.99	30.11	54.00	15.95	V
5623.850	41.90	-24.80	34.60	32.07	54.00	12.10	V
5714.450	42.60	-24.80	34.80	32.60	54.00	11.40	V

**802.11ac-HT80**

## Channel 42

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17936.200	42.17	-25.50	46.66	21.01	54.00	11.83	H
17934.550	42.03	-25.50	46.66	20.87	54.00	11.97	V
12537.400	38.67	-31.05	38.99	30.73	54.00	15.33	V
12539.600	38.37	-31.05	38.99	30.43	54.00	15.63	H
5149.980	52.30	-27.61	33.67	46.24	54.00	1.70	H
5149.970	52.22	-27.61	33.67	46.16	54.00	1.78	H

## Channel 58

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17938.400	42.14	-25.50	46.66	20.98	54.00	11.86	H
17932.350	42.00	-25.50	46.66	20.84	54.00	12.00	V
12539.600	38.51	-31.05	38.99	30.57	54.00	15.49	V
12561.600	38.36	-31.05	38.99	30.42	54.00	15.64	H
5350.480	49.65	-27.43	34.01	43.07	54.00	4.35	H
5350.640	49.28	-27.43	34.01	42.70	54.00	4.72	H

## Channel 106

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17894.950	42.38	-25.50	46.66	21.22	54.00	11.62	H
17959.850	42.29	-25.50	46.66	21.13	54.00	11.71	H
12584.150	38.16	-31.05	38.99	30.22	54.00	15.84	V
12354.800	38.10	-31.10	38.94	30.26	54.00	15.90	H
5457.767	45.97	-27.18	34.17	38.98	54.00	8.03	H
5457.955	45.72	-27.18	34.17	38.73	54.00	8.28	H

**Peak**
**802.11a**

## Channel 36

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17938.400	52.48	-25.50	46.66	31.32	74.00	21.52	V
17868.000	52.35	-25.50	46.66	31.19	74.00	21.65	V
14831.500	49.33	-28.59	40.79	37.13	68.30	18.97	H
14881.500	49.10	-28.59	40.79	36.90	68.30	19.20	H
5149.800	71.96	-27.61	33.67	65.90	74.00	2.04	V
5149.200	65.33	-27.61	33.67	59.27	74.00	8.67	V

## Channel 40

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17932.900	52.98	-25.50	46.66	31.82	74.00	21.02	H
17967.000	52.60	-25.50	46.66	31.44	74.00	21.40	H
14486.000	48.81	-28.59	42.46	34.94	74.00	25.19	H
14859.500	48.77	-28.59	40.79	36.57	68.30	19.53	V
11848.200	47.39	-31.85	39.05	40.19	74.00	26.61	V
11989.600	46.83	-31.48	39.09	39.22	74.00	27.17	V

## Channel 48

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17961.500	52.15	-25.50	46.66	30.99	74.00	21.85	H
17851.000	52.13	-25.50	46.66	30.97	74.00	21.87	V
14490.500	49.62	-28.59	42.46	35.75	74.00	24.38	V
14836.400	48.86	-28.59	40.79	36.66	68.30	19.44	V
11976.400	46.96	-31.48	39.09	39.35	74.00	27.04	H
11697.500	46.72	-31.99	38.98	39.73	74.00	27.28	H

## Channel 52

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17931.800	52.50	-25.50	46.66	31.34	74.00	21.50	H
17786.000	52.28	-25.50	46.66	31.12	74.00	21.72	H
14999.200	49.25	-27.85	40.21	36.89	68.30	19.05	H
14839.100	49.13	-28.59	40.79	36.93	68.30	19.17	H
11948.400	46.95	-31.48	39.09	39.34	74.00	27.05	V
11989.000	46.91	-31.48	39.09	39.30	74.00	27.09	H



## Channel 56

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17015.000	52.43	-26.32	42.36	36.38	68.30	15.87	H
17939.000	52.40	-25.50	46.66	31.24	74.00	21.60	V
14860.000	48.89	-28.59	40.79	36.69	68.30	19.41	V
14827.600	48.84	-28.32	41.35	35.82	68.30	19.46	V
11952.800	47.15	-31.48	39.09	39.54	74.00	26.85	H
11851.500	46.99	-31.85	39.05	39.79	74.00	27.01	V

## Channel 64

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17099.100	52.41	-26.60	43.36	35.65	68.30	15.89	H
17936.800	52.34	-25.50	46.66	31.18	74.00	21.66	H
14764.400	49.36	-28.32	41.35	36.34	68.30	18.94	H
14772.600	49.26	-28.32	41.35	36.24	68.30	19.04	H
5350.326	65.50	-25.80	34.30	56.92	74.00	8.50	V
5350.758	64.20	-25.80	34.30	55.60	74.00	9.80	V

## Channel 100

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
16674.000	52.64	-26.87	40.65	38.86	68.30	15.66	H
17927.400	52.45	-25.50	46.66	31.29	74.00	21.55	V
14808.900	49.52	-28.32	41.35	36.50	68.30	18.78	H
14486.600	49.16	-28.59	42.46	35.29	74.00	24.84	H
5454.575	60.70	-25.40	34.40	51.64	74.00	13.30	V
5458.308	60.50	-25.30	34.40	51.46	74.00	13.50	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17886.700	52.52	-25.50	46.66	31.36	74.00	21.48	H
17859.200	51.77	-25.50	46.66	30.61	74.00	22.23	H
14867.200	49.14	-28.59	40.79	36.94	68.30	19.16	V
14837.000	48.82	-28.59	40.79	36.62	68.30	19.48	V
11842.800	46.68	-31.85	39.05	39.48	74.00	27.32	V
11989.000	46.60	-31.48	39.09	38.99	74.00	27.40	V

**Channel 140**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17902.100	52.30	-25.50	46.66	31.14	74.00	21.70	V
17372.500	52.21	-25.95	44.35	33.80	68.30	16.09	V
14989.900	49.01	-27.85	40.21	36.65	68.30	19.29	H
14600.500	48.93	-27.29	41.90	34.32	68.30	19.37	V
5726.100	65.50	-24.80	34.80	55.44	68.30	2.80	V
5727.550	65.40	-24.80	34.80	55.37	68.30	2.90	V

**802.11n-HT20**
**Channel 36**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17965.300	52.17	-25.50	46.66	31.01	74.00	21.83	V
17949.400	52.13	-25.50	46.66	30.97	74.00	21.87	V
14999.800	49.08	-27.85	40.21	36.72	68.30	19.22	V
12565.500	48.85	-31.05	38.99	40.91	74.00	25.15	V
5148.300	64.43	-27.61	33.67	58.37	74.00	9.57	V
5147.600	63.50	-27.61	33.67	57.44	74.00	10.50	V

**Channel 40**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17845.500	52.33	-25.50	46.66	31.17	74.00	21.67	H
17888.900	52.31	-25.50	46.66	31.15	74.00	21.69	V
14998.600	49.04	-27.85	40.21	36.68	68.30	19.26	H
14735.200	49.00	-28.32	41.35	35.98	68.30	19.30	H
11994.500	47.51	-31.48	39.09	39.90	74.00	26.49	V
11948.900	47.08	-31.48	39.09	39.47	74.00	26.92	H

**Channel 48**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17923.500	52.60	-25.50	46.66	31.44	74.00	21.40	V
17942.800	52.30	-25.50	46.66	31.14	74.00	21.70	H
14788.500	48.97	-28.32	41.35	35.95	68.30	19.33	H
14764.900	48.96	-28.32	41.35	35.94	68.30	19.34	H
11999.500	47.28	-31.48	39.09	39.67	74.00	26.72	H
11978.600	46.87	-31.48	39.09	39.26	74.00	27.13	H

## Channel 52

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17768.500	52.48	-25.50	46.66	31.32	74.00	21.52	V
17936.800	52.40	-25.50	46.66	31.24	74.00	21.60	V
12536.300	49.43	-31.05	38.99	41.49	74.00	24.57	H
12564.900	49.14	-31.05	38.99	41.20	74.00	24.86	H
11948.900	47.11	-31.48	39.09	39.50	74.00	26.89	V
11774.000	46.95	-31.99	38.98	39.96	74.00	27.05	H

## Channel 56

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17941.700	52.77	-25.50	46.66	31.61	74.00	21.23	V
17822.300	52.31	-25.50	46.66	31.15	74.00	21.69	H
14995.900	49.59	-27.85	40.21	37.23	68.30	18.71	V
12546.200	49.04	-31.05	38.99	41.10	74.00	24.96	H
11739.900	47.27	-31.99	38.98	40.28	74.00	26.73	V
11867.500	46.95	-31.85	39.05	39.75	74.00	27.05	H

## Channel 64

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17939.000	52.88	-25.50	46.66	31.72	74.00	21.12	V
17973.000	52.59	-25.50	46.66	31.43	74.00	21.41	H
14873.200	49.36	-28.59	40.79	37.16	68.30	18.94	H
14695.000	49.28	-28.32	41.35	36.26	68.30	19.02	V
5350.758	65.70	-25.80	34.30	57.12	74.00	8.30	V
5350.178	63.70	-25.80	34.30	55.08	74.00	10.30	V

## Channel 100

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17928.500	53.27	-25.50	46.66	32.11	74.00	20.73	H
17965.300	52.57	-25.50	46.66	31.41	74.00	21.43	V
14834.800	49.48	-28.59	40.79	37.28	68.30	18.82	V
14744.000	49.37	-28.32	41.35	36.35	68.30	18.93	V
5457.663	64.40	-25.30	34.40	55.40	74.00	9.60	V
5459.193	63.50	-25.30	34.40	54.41	74.00	10.50	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17853.200	52.79	-25.50	46.66	31.63	74.00	21.21	V
17946.100	52.46	-25.50	46.66	31.30	74.00	21.54	H
14783.000	49.07	-28.32	41.35	36.05	68.30	19.23	V
14929.400	48.90	-28.59	40.79	36.70	68.30	19.40	H
11993.500	48.03	-31.48	39.09	40.42	74.00	25.97	H
11730.500	47.00	-31.99	38.98	40.01	74.00	27.00	H

## Channel 140

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17975.200	52.66	-25.50	46.66	31.50	74.00	21.34	H
17909.800	52.58	-25.50	46.66	31.42	74.00	21.42	H
14993.700	49.58	-27.85	40.21	37.22	68.30	18.72	V
14953.500	49.45	-28.59	40.79	37.25	68.30	18.85	H
5725.438	63.60	-24.80	34.80	53.61	68.30	4.70	V
5726.013	62.90	-24.80	34.80	52.92	68.30	5.40	V

**802.11ac-HT20**

## Channel 36

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
16887.300	52.63	-26.32	42.36	36.58	68.30	15.67	V
17955.500	52.35	-25.50	46.66	31.19	74.00	21.65	V
14835.300	49.37	-28.59	40.79	37.17	68.30	18.93	H
14994.200	48.98	-27.85	40.21	36.62	68.30	19.32	H
5149.100	65.11	-27.61	33.67	59.05	74.00	8.89	V
5149.800	64.49	-27.61	33.67	58.43	74.00	9.51	V

## Channel 40

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17873.500	52.85	-25.50	46.66	31.69	74.00	21.15	H
17920.800	52.51	-25.50	46.66	31.35	74.00	21.49	V
14849.000	50.30	-28.59	40.79	38.10	68.30	18.00	V
14994.800	49.23	-27.85	40.21	36.87	68.30	19.07	H
11761.400	47.07	-31.99	38.98	40.08	74.00	26.93	V
11961.000	46.90	-31.48	39.09	39.29	74.00	27.10	H

## Channel 48

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17959.800	52.38	-25.50	46.66	31.22	74.00	21.62	H
17949.400	52.11	-25.50	46.66	30.95	74.00	21.89	V
14711.500	48.90	-28.32	41.35	35.88	68.30	19.40	V
14837.500	48.87	-28.59	40.79	36.67	68.30	19.43	V
11856.000	47.08	-31.85	39.05	39.88	74.00	26.92	V
11945.000	47.01	-31.48	39.09	39.40	74.00	26.99	H

## Channel 52

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17948.800	53.14	-25.50	46.66	31.98	74.00	20.86	V
17934.000	52.31	-25.50	46.66	31.15	74.00	21.69	H
14879.300	50.39	-28.59	40.79	38.19	68.30	17.91	H
14861.700	49.31	-28.59	40.79	37.11	68.30	18.99	V
11735.000	47.14	-31.99	38.98	40.15	74.00	26.86	V
11831.200	46.87	-31.85	39.05	39.67	74.00	27.13	V

## Channel 56

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17952.700	52.99	-25.50	46.66	31.83	74.00	21.01	V
15996.900	52.70	-27.35	38.54	41.51	74.00	21.30	V
14864.500	49.00	-28.59	40.79	36.80	68.30	19.30	H
14526.200	48.87	-28.59	42.46	35.00	68.30	19.43	V
11900.000	47.03	-31.85	39.05	39.83	74.00	26.97	V
11852.100	47.00	-31.85	39.05	39.80	74.00	27.00	V

## Channel 64

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17860.800	52.57	-25.50	46.66	31.41	74.00	21.43	V
17862.500	52.45	-25.50	46.66	31.29	74.00	21.55	V
12554.500	49.48	-31.05	38.99	41.54	74.00	24.52	H
14994.800	49.42	-27.85	40.21	37.06	68.30	18.88	H
5350.731	63.80	-25.80	34.30	55.17	74.00	10.20	V
5352.540	63.20	-25.80	34.30	54.61	74.00	10.80	V

## Channel 100

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17934.500	53.38	-25.50	46.66	32.22	74.00	20.62	V
16359.400	52.20	-27.10	39.31	39.99	68.30	16.10	V
14875.500	49.51	-28.59	40.79	37.31	68.30	18.79	H
12516.000	49.40	-31.22	38.91	41.71	74.00	24.60	H
5457.963	61.30	-25.30	34.40	52.28	74.00	12.70	V
5459.230	60.90	-25.30	34.40	51.83	74.00	13.10	V

## Channel 120

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17939.000	53.07	-25.50	46.66	31.91	74.00	20.93	V
17939.500	52.36	-25.50	46.66	31.20	74.00	21.64	H
14524.000	49.34	-28.59	42.46	35.47	68.30	18.96	H
12346.000	49.14	-31.10	38.94	41.30	74.00	24.86	V
11996.200	46.59	-31.48	39.09	38.98	74.00	27.41	V
11994.000	46.45	-31.48	39.09	38.84	74.00	27.55	H

## Channel 140

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17943.900	52.50	-25.50	46.66	31.34	74.00	21.50	H
17934.000	52.36	-25.50	46.66	31.20	74.00	21.64	H
14872.700	50.37	-28.59	40.79	38.17	68.30	17.93	H
14896.900	48.84	-28.59	40.79	36.64	68.30	19.46	V
5726.888	65.60	-24.80	34.80	55.54	68.30	2.80	V
5728.713	66.30	-24.80	34.80	56.33	68.30	2.00	V

**802.11n-HT40**

## Channel 38

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
16999.000	52.26	-26.32	42.36	36.21	68.30	16.04	V
17948.300	52.07	-25.50	46.66	30.91	74.00	21.93	H
14947.500	49.22	-28.59	40.79	37.02	68.30	19.08	H
14947.000	48.91	-28.59	40.79	36.71	68.30	19.39	H
5149.800	65.36	-27.61	33.67	59.30	74.00	8.64	H
5148.800	65.09	-27.61	33.67	59.03	74.00	8.91	H

## Channel 46

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17832.200	52.64	-25.50	46.66	31.48	74.00	21.36	V
17967.500	52.41	-25.50	46.66	31.25	74.00	21.59	H
14940.400	48.71	-28.59	40.79	36.51	68.30	19.59	V
12812.400	48.56	-30.69	39.14	40.11	68.30	19.74	H
11970.900	47.50	-31.48	39.09	39.89	74.00	26.50	H
11890.600	47.00	-31.85	39.05	39.80	74.00	27.00	H

## Channel 54

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
15997.500	52.15	-27.35	38.54	40.96	74.00	21.85	V
17687.000	51.93	-25.74	45.95	31.72	68.30	16.37	H
14768.200	49.28	-28.32	41.35	36.26	68.30	19.02	H
14529.500	48.98	-28.59	42.46	35.11	68.30	19.32	H
11766.900	46.55	-31.99	38.98	39.56	74.00	27.45	H
11883.500	46.53	-31.85	39.05	39.33	74.00	27.47	V

## Channel 62

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17931.200	53.13	-25.50	46.66	31.97	74.00	20.87	V
17467.000	52.15	-26.85	45.25	33.75	68.30	16.15	H
14856.800	48.94	-28.59	40.79	36.74	68.30	19.36	V
14861.700	48.81	-28.59	40.79	36.61	68.30	19.49	H
5350.839	70.50	-25.80	34.30	61.91	74.00	3.50	V
5351.811	69.20	-25.80	34.30	60.58	74.00	4.80	V



**Channel 102**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17863.600	52.74	-25.50	46.66	31.58	74.00	21.26	V
17942.200	52.33	-25.50	46.66	31.17	74.00	21.67	H
14996.500	49.02	-27.85	40.21	36.66	68.30	19.28	V
14837.500	48.97	-28.59	40.79	36.77	68.30	19.33	H
5459.628	60.40	-25.30	34.40	51.32	74.00	13.60	V
5459.958	60.50	-25.30	34.40	51.44	74.00	13.50	V

**Channel 118**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17943.300	52.43	-25.50	46.66	31.27	74.00	21.57	H
17956.500	52.37	-25.50	46.66	31.21	74.00	21.63	H
14905.100	49.03	-28.59	40.79	36.83	68.30	19.27	V
14873.200	49.00	-28.59	40.79	36.80	68.30	19.30	H
11997.900	47.96	-31.48	39.09	40.35	74.00	26.04	H
11999.000	47.08	-31.48	39.09	39.47	74.00	26.92	H

**Channel 134**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
15964.500	52.57	-27.35	38.54	41.38	74.00	21.43	H
17909.200	52.37	-25.50	46.66	31.21	74.00	21.63	H
14882.600	49.18	-28.59	40.79	36.98	68.30	19.12	H
14980.500	49.00	-27.85	40.21	36.64	68.30	19.30	H
5726.038	56.50	-24.80	34.80	46.49	68.30	11.80	V
5728.600	57.40	-24.80	34.80	47.39	68.30	10.90	V

**802.11ac-HT40**
**Channel 38**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17935.100	52.67	-25.50	46.66	31.51	74.00	21.33	H
17933.500	52.60	-25.50	46.66	31.44	74.00	21.40	V
14849.000	48.95	-28.59	40.79	36.75	68.30	19.35	H
12323.500	48.90	-31.10	38.94	41.06	74.00	25.10	H
5150.000	68.14	-27.61	33.67	62.08	74.00	5.86	H
5149.700	65.68	-27.61	33.67	59.62	74.00	8.32	H

## Channel 46

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17952.700	52.65	-25.50	46.66	31.49	74.00	21.35	V
17953.200	52.52	-25.50	46.66	31.36	74.00	21.48	H
14992.600	49.00	-27.85	40.21	36.64	68.30	19.30	H
12818.500	48.98	-30.69	39.14	40.53	68.30	19.32	V
11978.000	47.09	-31.48	39.09	39.48	74.00	26.91	H
11973.600	46.65	-31.48	39.09	39.04	74.00	27.35	H

## Channel 54

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17964.800	52.90	-25.50	46.66	31.74	74.00	21.10	V
15959.500	52.41	-27.35	38.54	41.22	74.00	21.59	V
14768.800	48.93	-28.32	41.35	35.91	68.30	19.37	V
14974.500	48.92	-28.59	40.79	36.72	68.30	19.38	V
11989.000	47.73	-31.48	39.09	40.12	74.00	26.27	H
11993.500	46.96	-31.48	39.09	39.35	74.00	27.04	V

## Channel 62

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17978.500	52.76	-25.50	46.66	31.60	74.00	21.24	H
17092.500	52.60	-26.60	43.36	35.84	68.30	15.70	V
14821.500	49.93	-28.32	41.35	36.91	68.30	18.37	V
12498.400	48.68	-31.22	38.91	40.99	74.00	25.32	H
5350.461	70.70	-25.80	34.30	62.15	74.00	3.30	V
5351.690	70.20	-25.80	34.30	61.62	74.00	3.80	V

## Channel 102

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
17896.600	53.22	-25.50	46.66	32.06	74.00	20.78	H
15995.800	52.91	-27.35	38.54	41.72	74.00	21.09	H
14519.000	49.56	-28.59	42.46	35.69	68.30	18.74	V
14834.200	49.47	-28.59	40.79	37.27	68.30	18.83	H
5459.005	60.20	-25.30	34.40	51.16	74.00	13.80	V
5459.440	60.30	-25.30	34.40	51.27	74.00	13.70	V

## Channel 118

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17936.800	52.14	-25.50	46.66	30.98	74.00	21.86	H
17967.500	52.10	-25.50	46.66	30.94	74.00	21.90	H
14795.100	48.89	-28.32	41.35	35.87	68.30	19.41	H
14834.800	48.79	-28.59	40.79	36.59	68.30	19.51	H
11660.100	47.57	-32.31	38.91	40.98	74.00	26.43	V
11986.900	47.14	-31.48	39.09	39.53	74.00	26.86	H

## Channel 134

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17868.500	53.02	-25.50	46.66	31.86	74.00	20.98	H
17940.000	52.33	-25.50	46.66	31.17	74.00	21.67	V
14997.000	49.23	-27.85	40.21	36.87	68.30	19.07	V
14857.300	49.16	-28.59	40.79	36.96	68.30	19.14	V
5725.525	56.20	-24.80	34.80	46.20	68.30	12.10	V
5726.500	56.40	-24.80	34.80	46.43	68.30	11.90	V

**802.11ac-HT80**

## Channel 42

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17857.000	53.24	-25.50	46.66	32.08	74.00	20.76	V
17886.150	52.79	-25.50	46.66	31.63	74.00	21.21	V
14811.650	49.30	-28.32	41.35	36.28	68.20	18.90	V
14879.850	48.95	-28.59	40.79	36.75	68.20	19.25	H
5149.950	63.07	-27.61	33.67	57.01	74.00	10.93	H
5149.560	63.04	-27.61	33.67	56.98	74.00	10.96	H

## Channel 58

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17926.850	52.50	-25.50	46.66	31.34	74.00	21.50	H
17943.900	52.33	-25.50	46.66	31.17	74.00	21.67	H
14867.750	49.36	-28.59	40.79	37.16	68.20	18.84	H
14832.000	49.05	-28.59	40.79	36.85	68.20	19.15	V
5350.184	59.71	-27.43	34.01	53.13	74.00	14.29	H
5350.152	59.64	-27.43	34.01	53.06	74.00	14.36	H

## Channel 106

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17845.450	52.64	-25.50	46.66	31.48	74.00	21.36	V
17890.550	52.30	-25.50	46.66	31.14	74.00	21.70	H
14853.450	50.06	-28.59	40.79	37.86	68.20	18.14	H
12535.750	49.45	-31.05	38.99	41.51	74.00	24.55	V
5457.370	59.65	-27.18	34.17	52.66	74.00	14.35	H
5469.610	61.12	-27.18	34.17	54.13	68.20	7.08	H

Sample calculation: 802.11ac 80MHz CH106–Peak, 17845.450MHz

$$\text{Peak ERP} = P_{\text{Mea}}(31.48 \text{ dB}\mu\text{V/m}) + \text{Cable Loss}(-25.50\text{dB}) + \text{Antenna Factor}(46.66 \text{ dB/m}) = 52.64 \text{ dB}\mu\text{V/m}$$

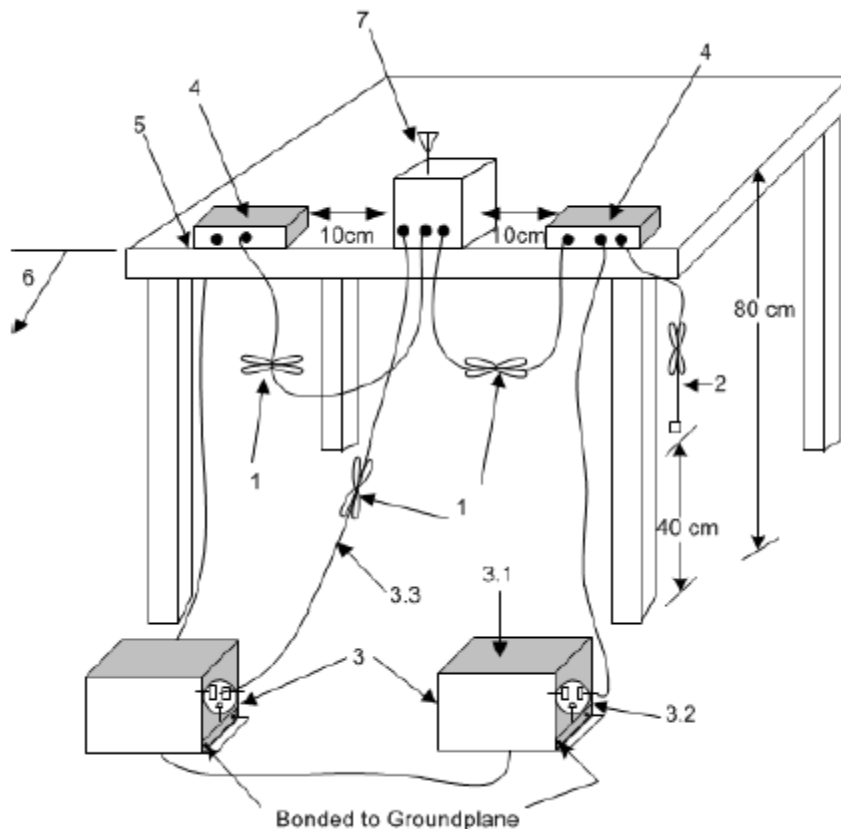
## A.7. AC Powerline Conducted Emission (150kHz- 30MHz)

Method of Measurement: See ANSI C63.10-clause 6.2

### Setup:

A stand-alone EUT shall be placed in the center along the back edge of the tabletop. For multiunit tabletop systems, the EUT shall be centered laterally (left to right facing the tabletop) on the tabletop and its rear shall be flush with the rear of the table.

Accessories that are part of an EUT system tested on a tabletop shall be placed in a test arrangement on one or both sides of the host with a 10 cm separation between the nearest points of the cabinets. The rear of the host and accessories shall be flush with the back of the supporting tabletop unless that would not be typical of normal use. If more than two accessories are present, then an equipment test arrangement shall be chosen that maintains 10 cm spacing between cabinets unless the equipment is normally located closer together.



### Exploratory ac power-line conducted emission measurements

Exploratory measurements shall be used to identify the frequency of the emission that has the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable positions, and with a typical system equipment configuration and arrangement. For each mode of operation and for each ac power current-carrying conductor, cable manipulation shall be performed within the range of likely configurations. For this measurement or series of measurements, the frequency spectrum of interest shall be monitored looking for the emission that has the highest amplitude relative to the limit. Once that emission is found for each current-carrying conductor of each power cord associated with the EUT (but not the cords associated with non-EUT equipment in the overall system), the one configuration and

arrangement and mode of operation that produces the emission closest to the limit over all of the measured conductors shall be recorded.

**Final ac power-line conducted emission measurements**

Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT. If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation. If the EUT is composed of equipment units that have their own separate ac power connections (e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network), then each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be measured separately. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.

**Test Condition:**

Voltage (V)	Frequency (Hz)
120	60

**Measurement Result and limit:**

**EUT ID: EUT8**

## WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB $\mu$ V)	Result (dB $\mu$ V)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig.57	Fig.58	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 (dB $\mu$ V)	Result (dB $\mu$ V)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig.57	Fig.58	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:

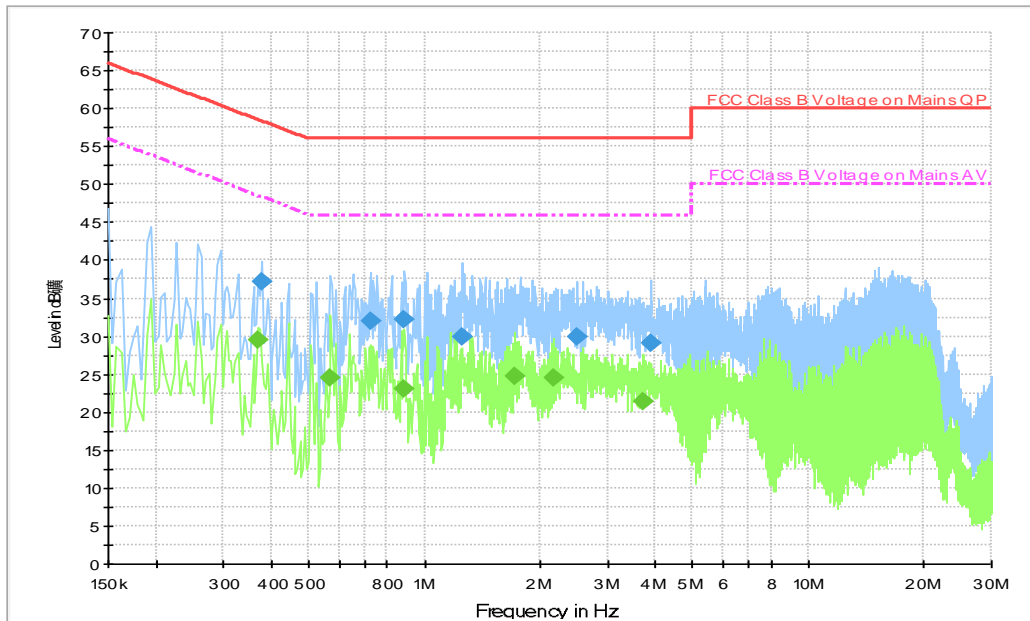


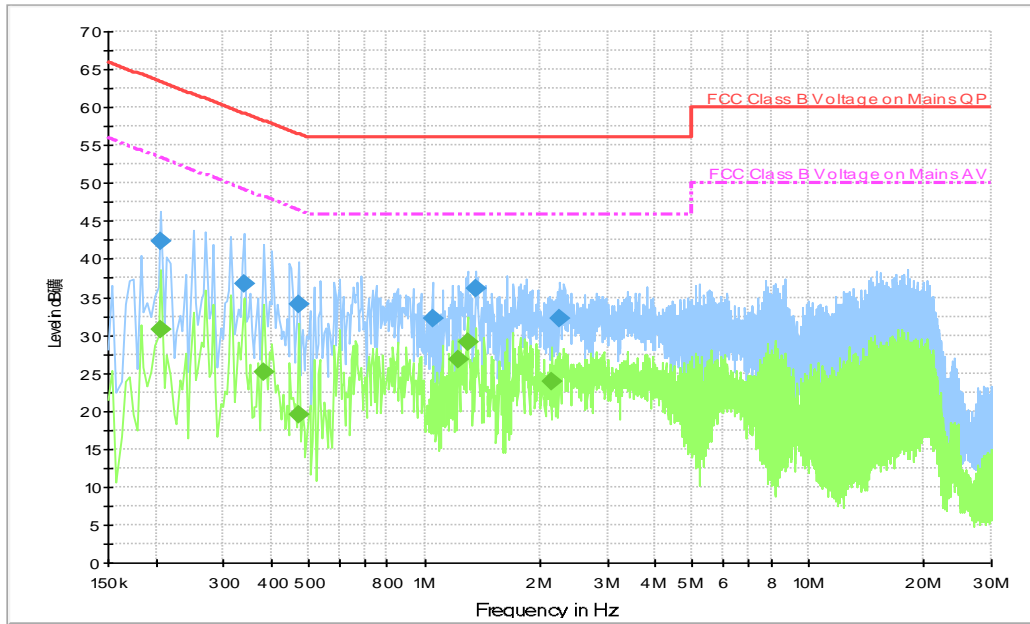
Fig.57 Conducted Emission(802.11a, Ch40, TX) ,

### Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.378000	37.2	N	19.8	21.1	58.3
0.722000	32.1	L1	19.6	23.9	56.0
0.886000	32.1	L1	19.7	23.9	56.0
1.254000	29.9	N	19.6	26.1	56.0
2.494000	29.8	N	19.6	26.2	56.0
3.890000	29.2	L1	19.6	26.8	56.0

### Final Result 2

Frequency (MHz)	Average (dBuV)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.370000	29.6	L1	19.8	18.9	48.5
0.570000	24.6	L1	19.7	21.4	46.0
0.886000	23.0	L1	19.7	23.0	46.0
1.714000	24.7	L1	19.6	21.3	46.0
2.174000	24.5	L1	19.6	21.5	46.0
3.706000	21.4	N	19.6	24.6	46.0



**Fig.58 Conducted Emission(802.11a, IDLE)**

### Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	42.4	L1	19.8	21.0	63.4
0.338000	36.8	L1	19.8	22.4	59.3
0.470000	34.0	L1	19.8	22.5	56.5
1.050000	32.2	L1	19.8	23.8	56.0
1.362000	36.1	L1	19.7	19.9	56.0
2.258000	32.1	L1	19.6	23.9	56.0

### Final Result 2

Frequency (MHz)	Average (dBuV)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	30.8	L1	19.8	22.5	53.4
0.382000	25.1	N	19.8	23.1	48.2
0.470000	19.5	L1	19.8	27.0	46.5
1.230000	26.8	L1	19.7	19.2	46.0
1.294000	29.0	L1	19.7	17.0	46.0
2.158000	24.0	L1	19.6	22.0	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).

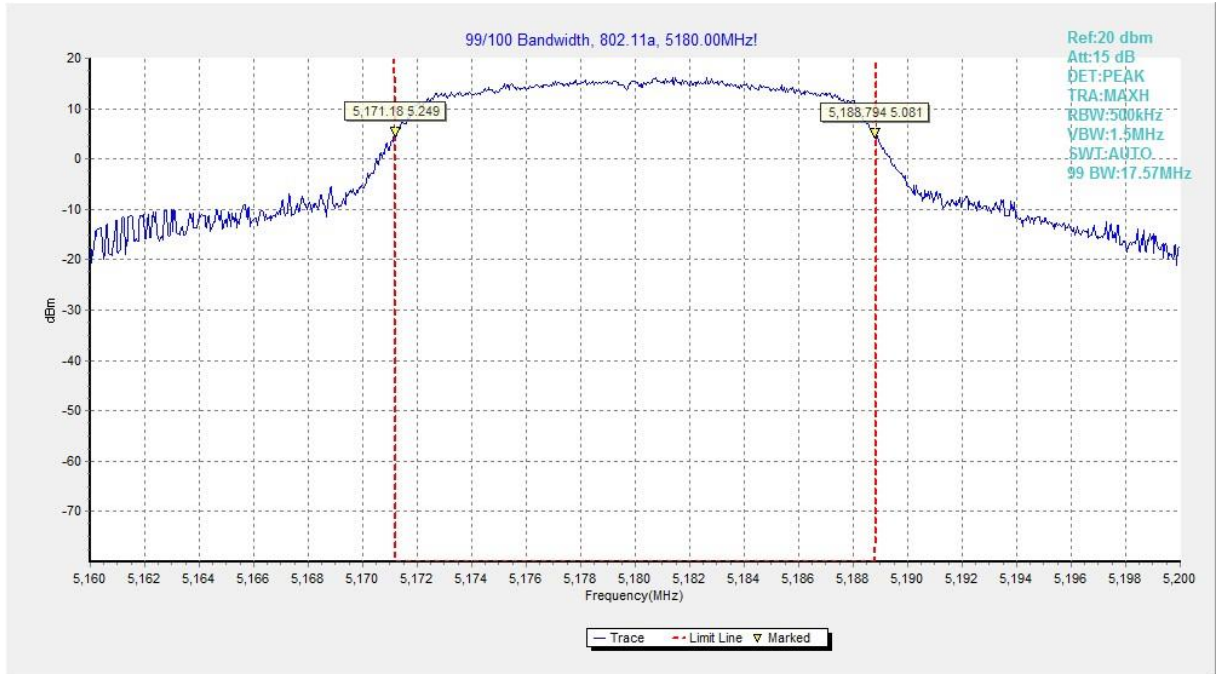
#### Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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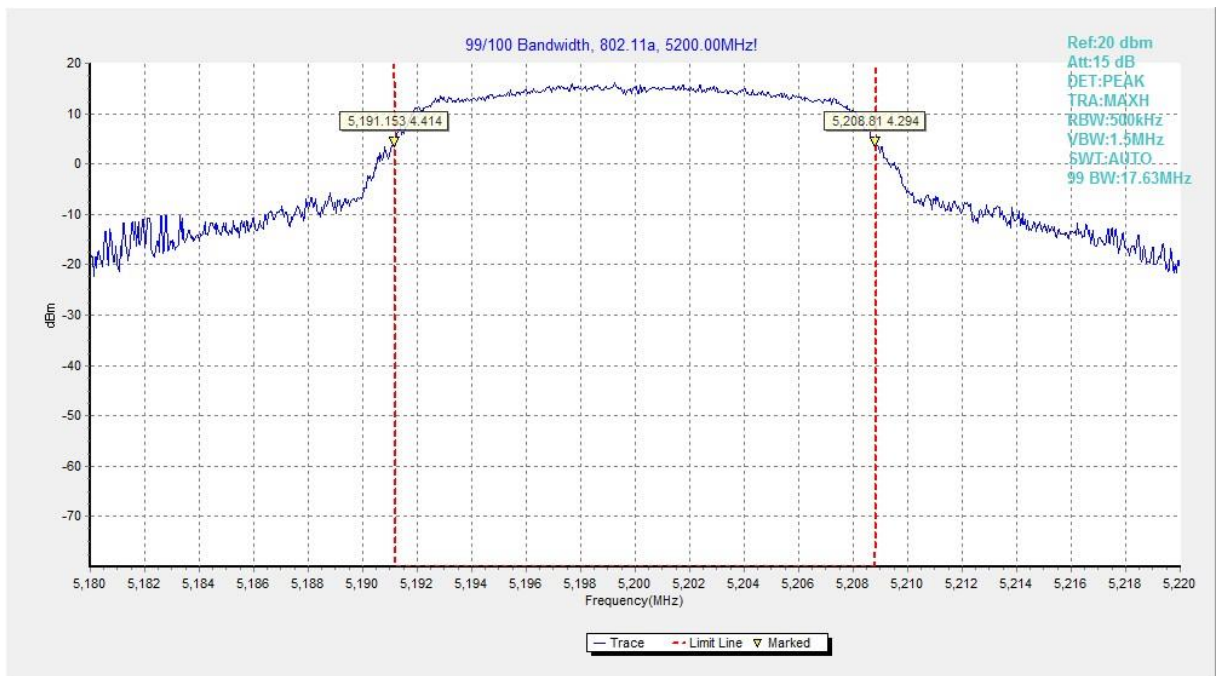
#### Measurement Result:

Mode	Frequency	99% Occupied bandwidth ( MHz)		conclusion
802.11a	5180 MHz	Fig.59	17.57	P
	5200 MHz	Fig.60	17.63	P
	5240 MHz	Fig.61	17.66	P
802.11ac HT20	5180 MHz	Fig.62	18.39	P
	5200 MHz	Fig.63	18.35	P
	5240 MHz	Fig.64	18.41	P
802.11ac HT40	5190 MHz	Fig.65	36.33	P
	5230 MHz	Fig.66	36.34	P
802.11ac HT80	5210 MHz	Fig.67	75.66	P

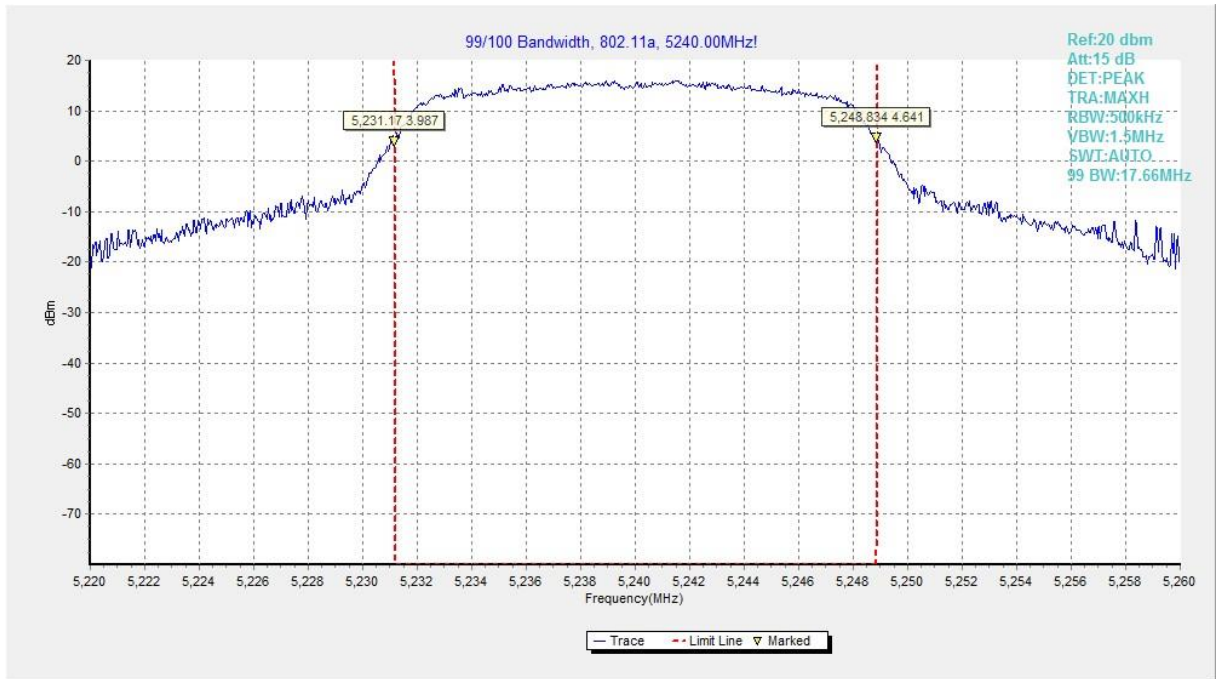
**Conclusion: PASS**  
**Test graphs as below:**



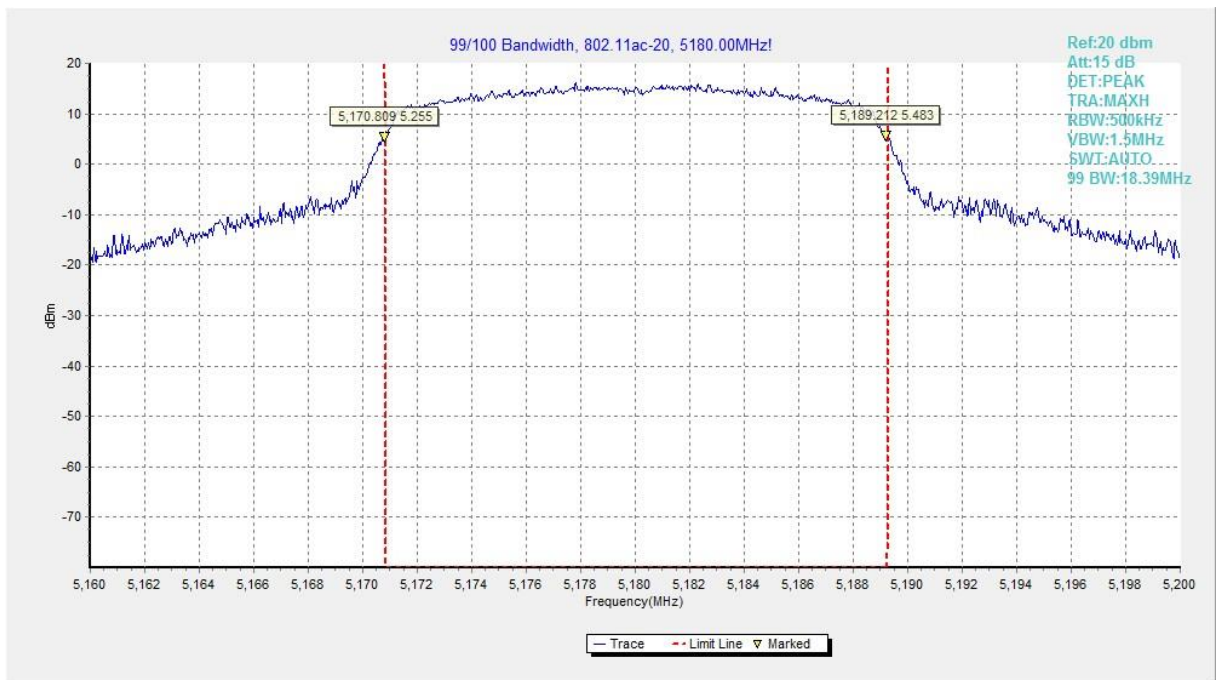
**Fig.59 99% Occupied bandwidth (802.11a, 5180MHz)**



**Fig.60 99% Occupied bandwidth (802.11a, 5200MHz)**

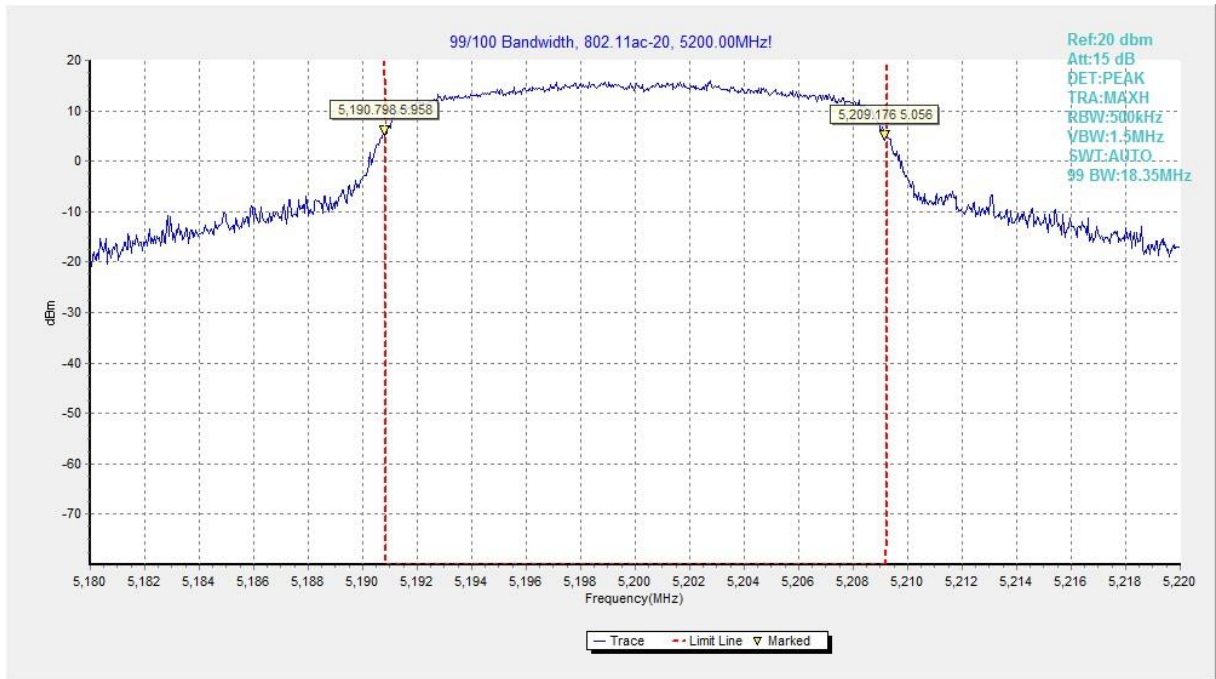


**Fig.61 99% Occupied bandwidth (802.11a, 5240MHz)**

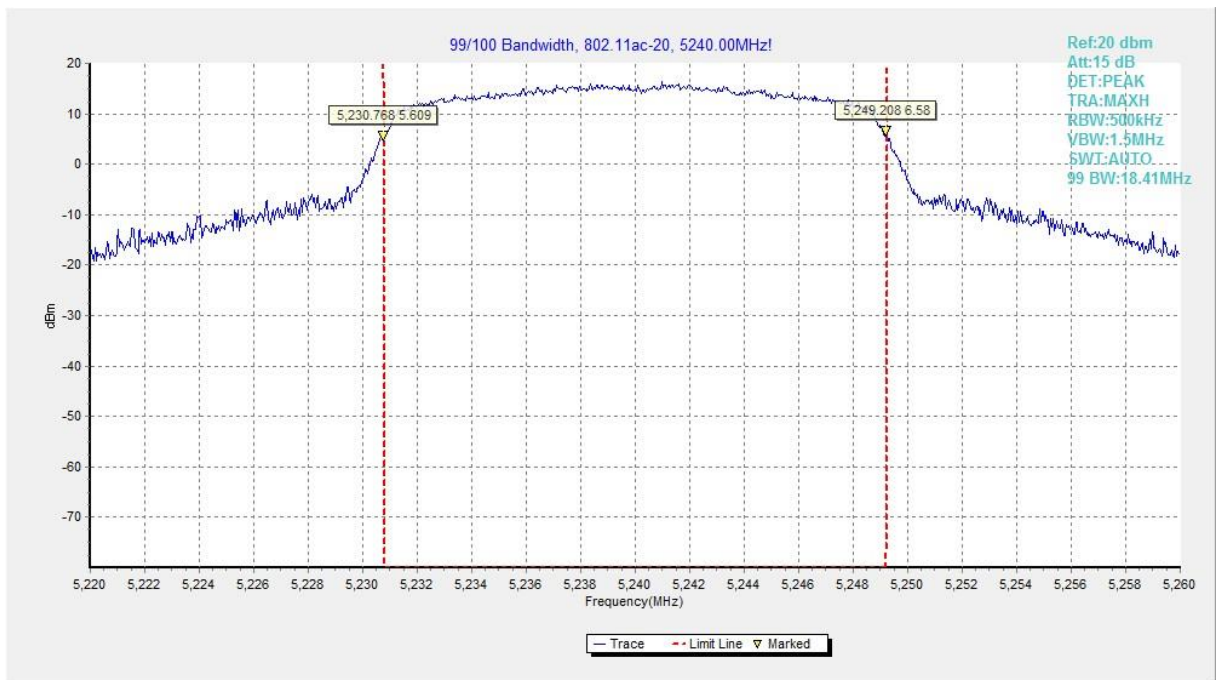


**Fig.62 99% Occupied bandwidth (802.11ac-HT20, 5180MHz)**

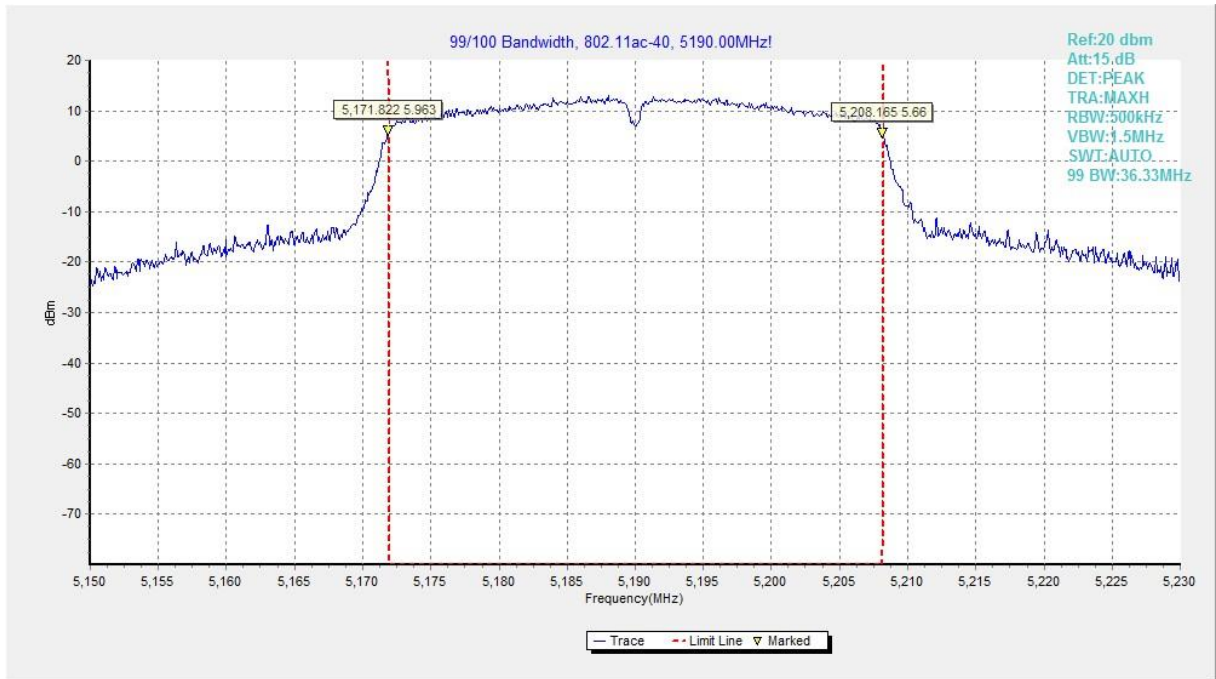




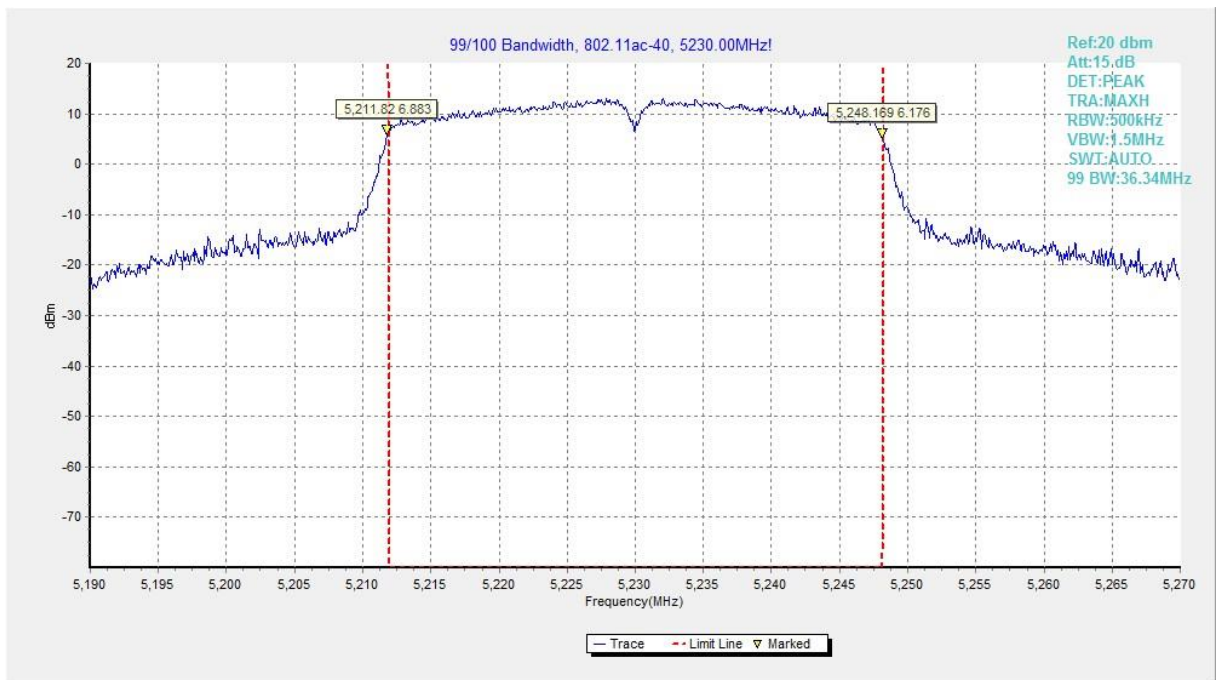
**Fig.63 99% Occupied bandwidth (802.11ac-HT20, 5200MHz)**



**Fig.64 99% Occupied bandwidth (802.11ac-HT20, 5240MHz)**

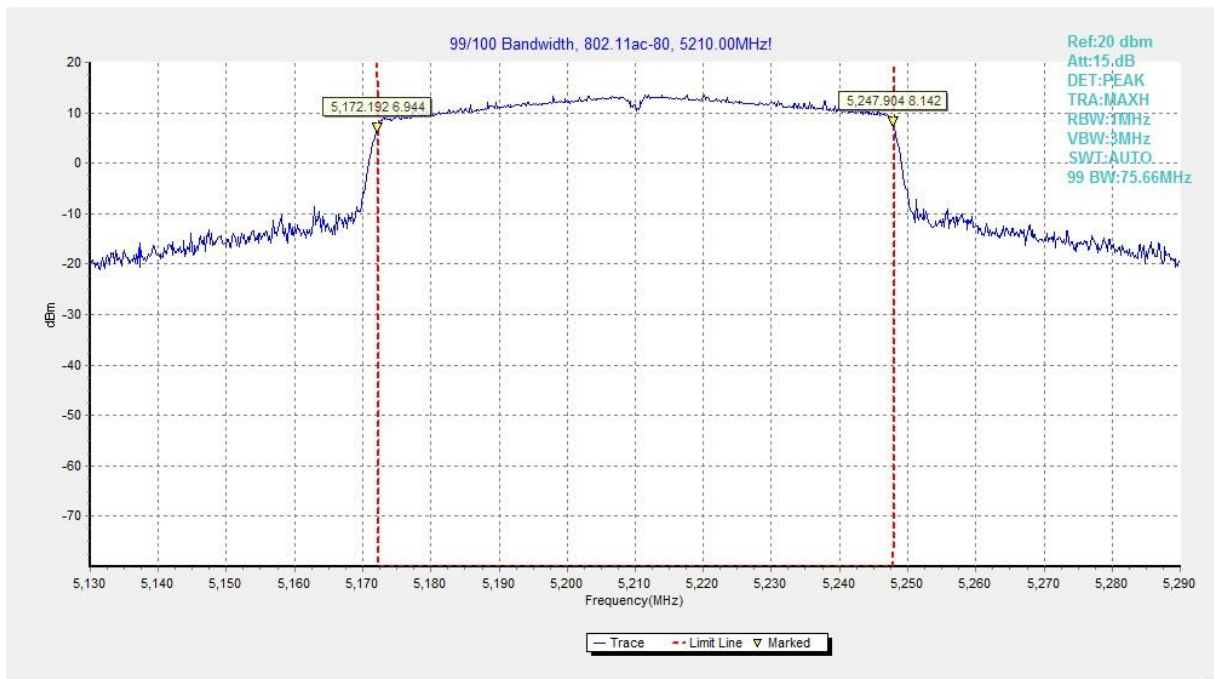


**Fig.65 99% Occupied bandwidth (802.11ac-HT40, 5190MHz)**



**Fig.66 99% Occupied bandwidth (802.11ac-HT40, 5230MHz)**





**Fig.67 99% Occupied bandwidth (802.11ac-HT80, 5210MHz)**

## 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 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

<p><b>United States Department of Commerce National Institute of Standards and Technology</b></p> <p><b>NVLAP</b> </p> <hr/> <p><b>Certificate of Accreditation to ISO/IEC 17025:2017</b></p> <hr/> <p><b>NVLAP LAB CODE: 600118-0</b></p> <p><b>Telecommunication Technology Labs, CAICT</b> Beijing China</p> <p><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p> <p><b>Electromagnetic Compatibility &amp; Telecommunications</b></p> <p><i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).</i></p> <hr/> <table style="width: 100%;"><tr><td style="width: 40%;"><p>2021-09-29 through 2022-09-30 <i>Effective Dates</i></p></td><td style="width: 20%; text-align: center;"></td><td style="width: 40%; text-align: right;"><p> For the National Voluntary Laboratory Accreditation Program</p></td></tr></table>		<p>2021-09-29 through 2022-09-30 <i>Effective Dates</i></p>		<p> For the National Voluntary Laboratory Accreditation Program</p>
<p>2021-09-29 through 2022-09-30 <i>Effective Dates</i></p>		<p> For the National Voluntary Laboratory Accreditation Program</p>		

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