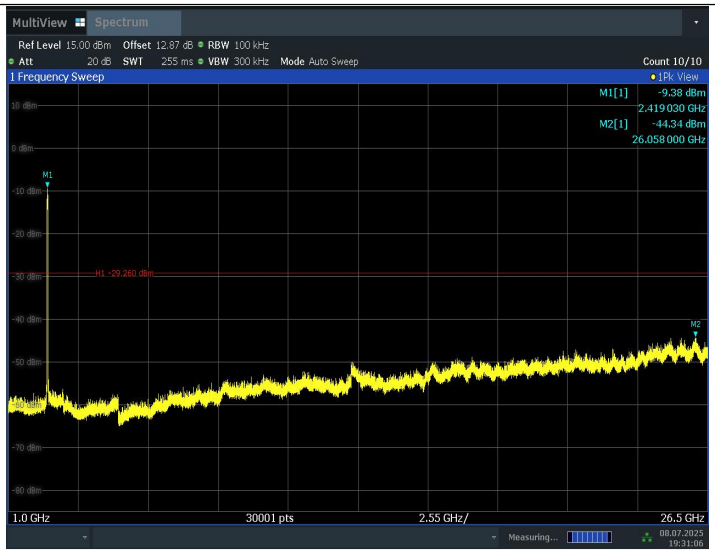
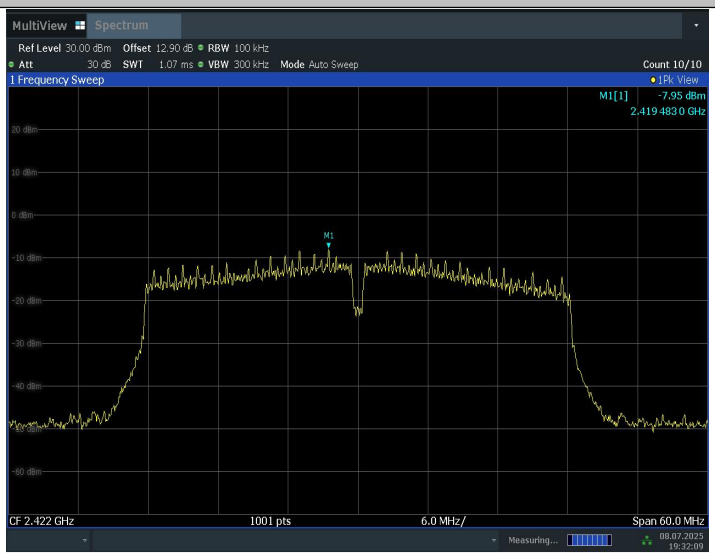


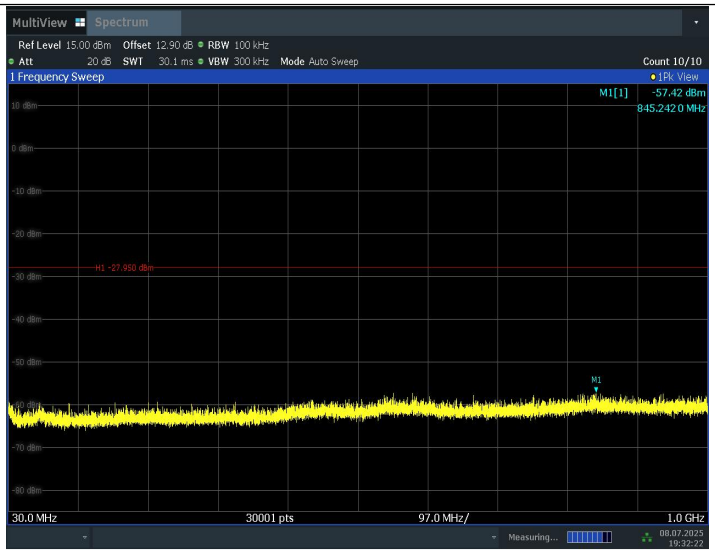

19:31:07 08.07.2025

11N40MIMO_WIFI1_2422_0~Reference



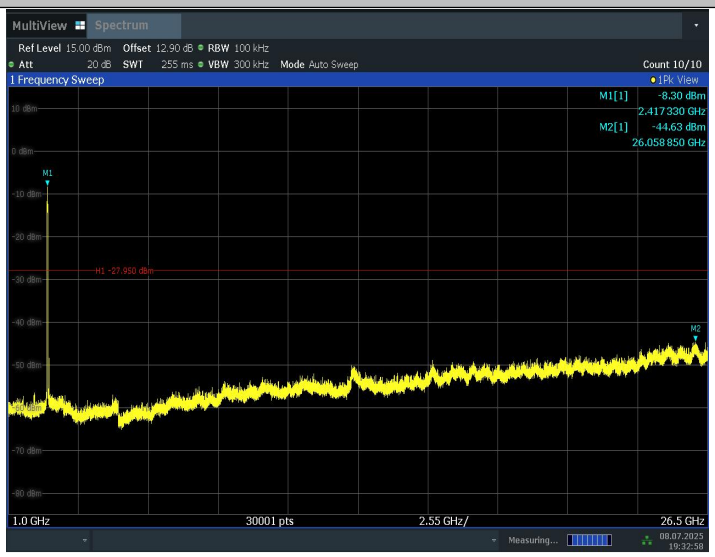

19:32:10 08.07.2025

11N40MIMO_WIFI1_2422_30~1000



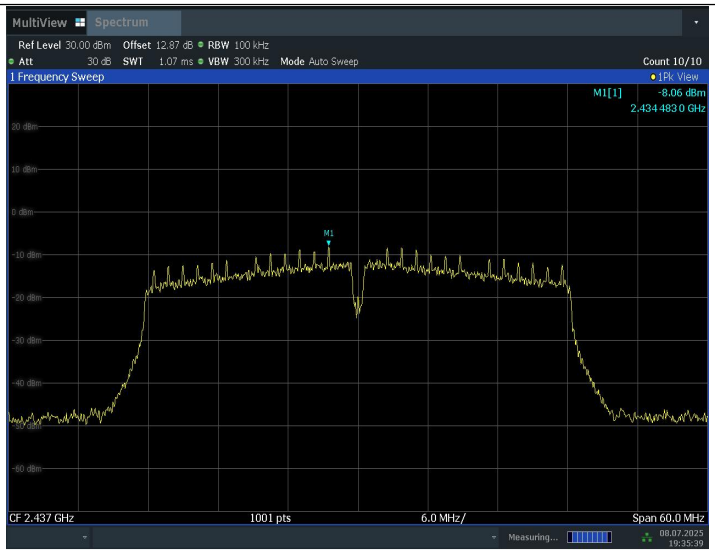

19:32:23 08.07.2025

11N40MIMO_WIFI1_2422_1000~26500



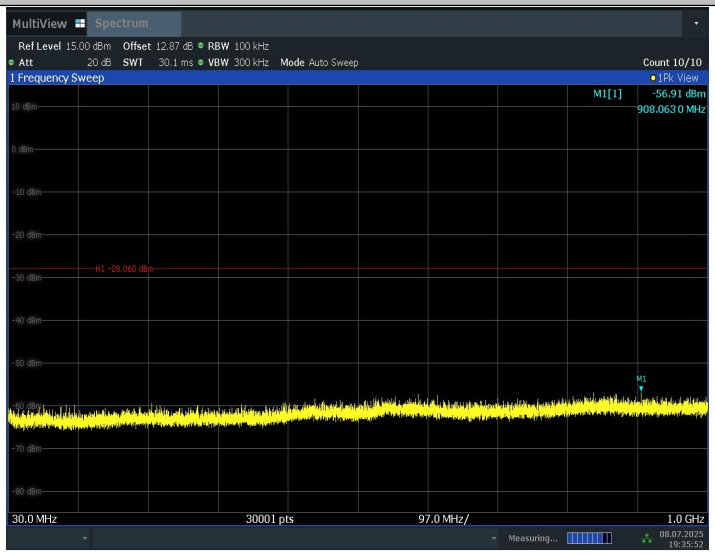

19:32:59 08.07.2025

11N40MIMO_WIFI0_2437_0~Reference




19:35:40 08.07.2025

11N40MIMO_WIFI0_2437_30~1000

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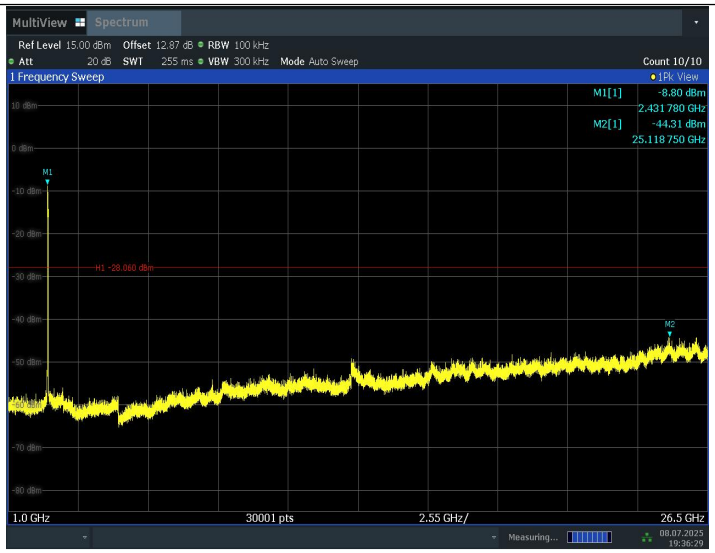
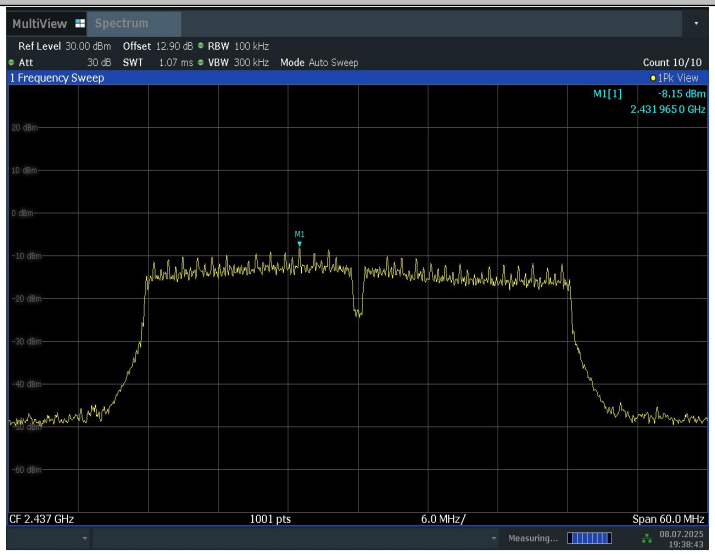
11N40MIMO_WIFI0_2437_1000~26500



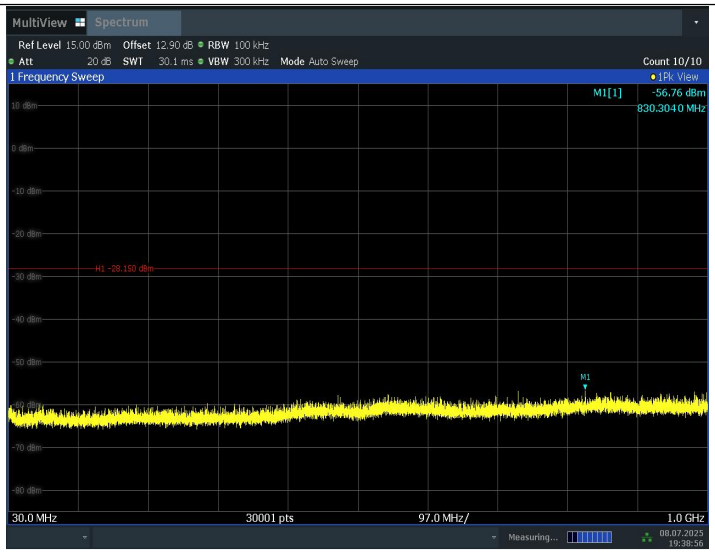

19:36:29 08.07.2025

11N40MIMO_WIFI1_2437_0~Reference



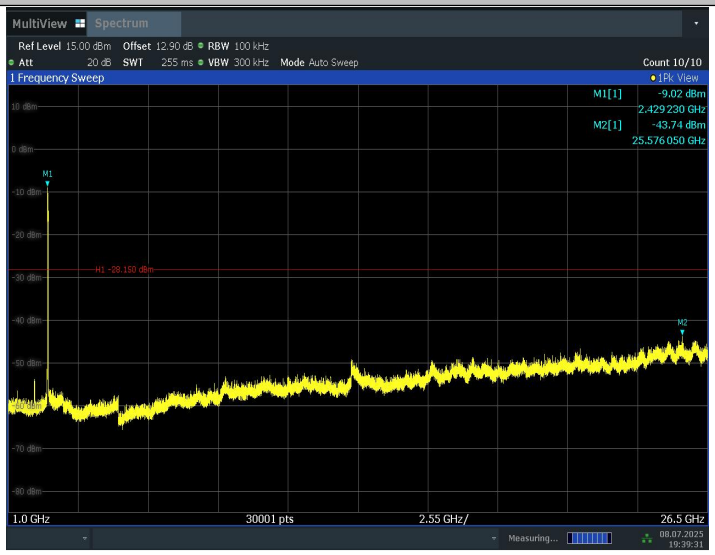

19:38:43 08.07.2025

11N40MIMO_WIFI1_2437_30~1000



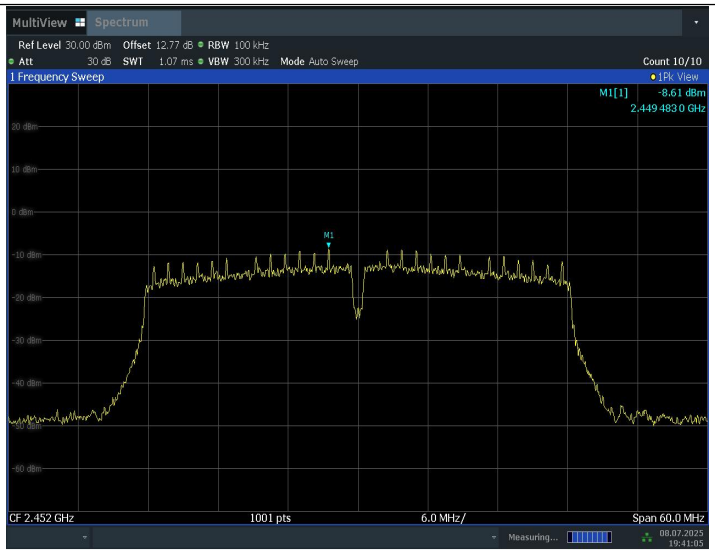

19:38:56 08.07.2025

11N40MIMO_WIFI1_2437_1000~26500



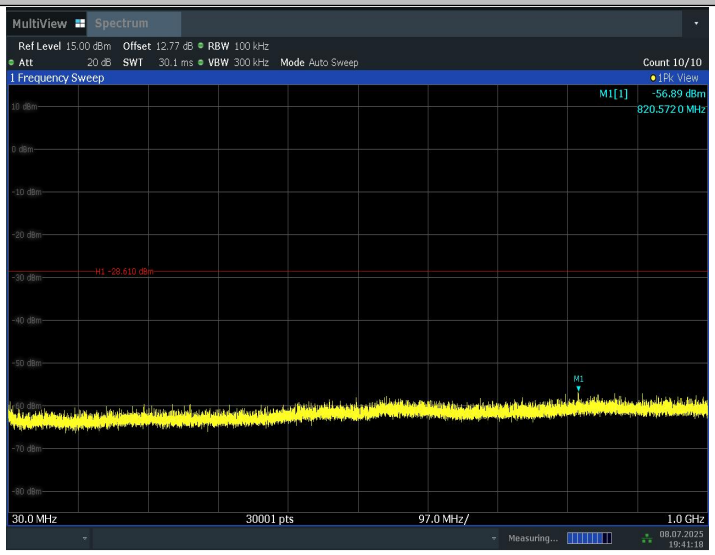

19:39:32 08.07.2025

11N40MIMO_WIFI0_2452_0~Reference




19:41:06 08.07.2025

11N40MIMO_WIFI0_2452_30~1000

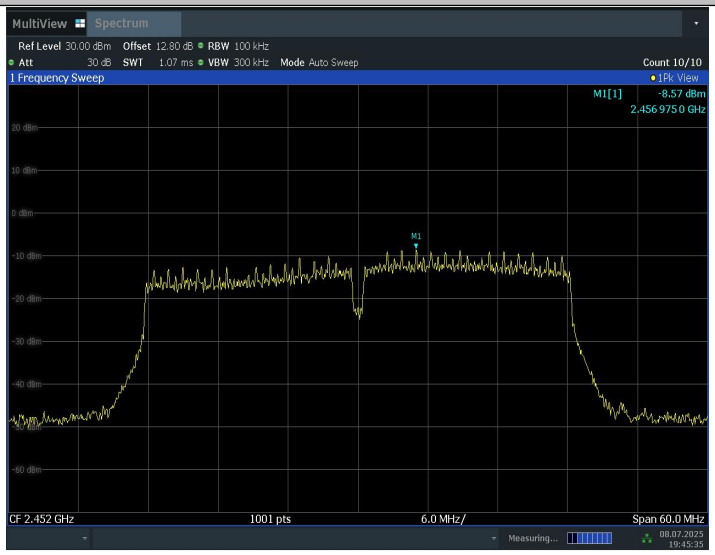



19:41:19 08.07.2025

11N40MIMO_WIFI0_2452_1000~26500

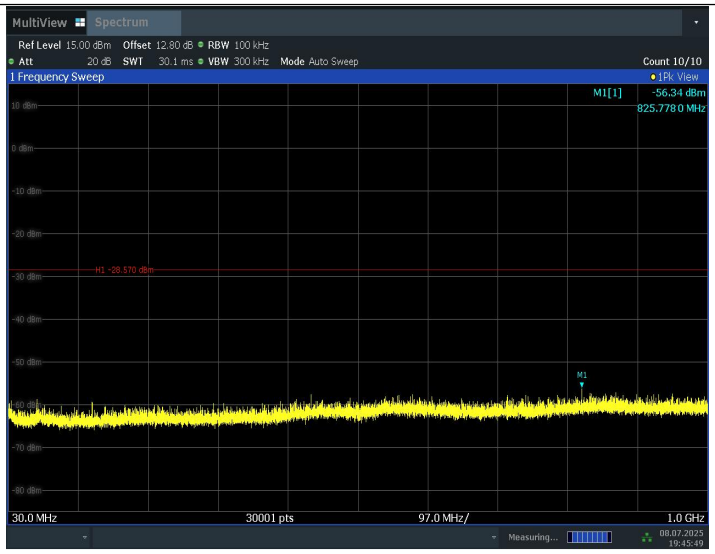

19:41:55 08.07.2025

11N40MIMO_WIFI1_2452_0~Reference



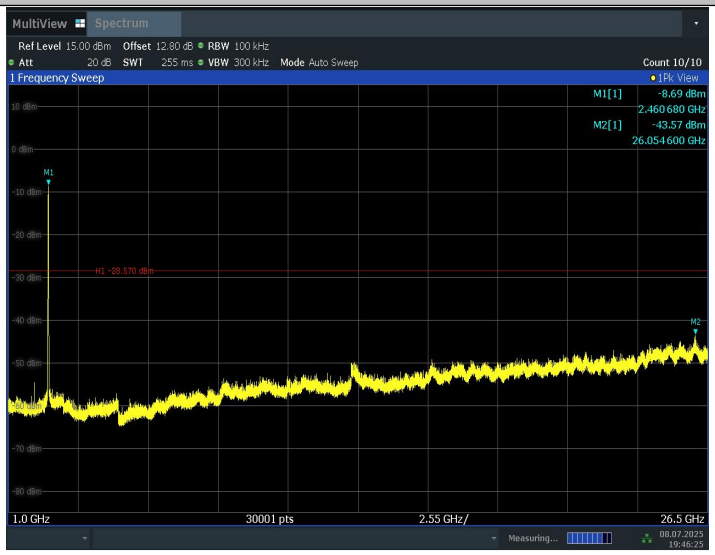

19:45:36 08.07.2025

11N40MIMO_WIFI1_2452_30~1000




19:45:49 08.07.2025

11N40MIMO_WIFI1_2452_1000~26500




19:46:25 08.07.2025

**Conclusion: Pass**

## A.7. Radiated Unwanted Emission

### Limits

Measurement Limit

| Standard | Limit |
|---|---|
| FCC 47 CFR Part 15.247, 15.205, 15.209 | 20dB below peak output power |

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)).

Limit in restricted band

| 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.

### Test setup

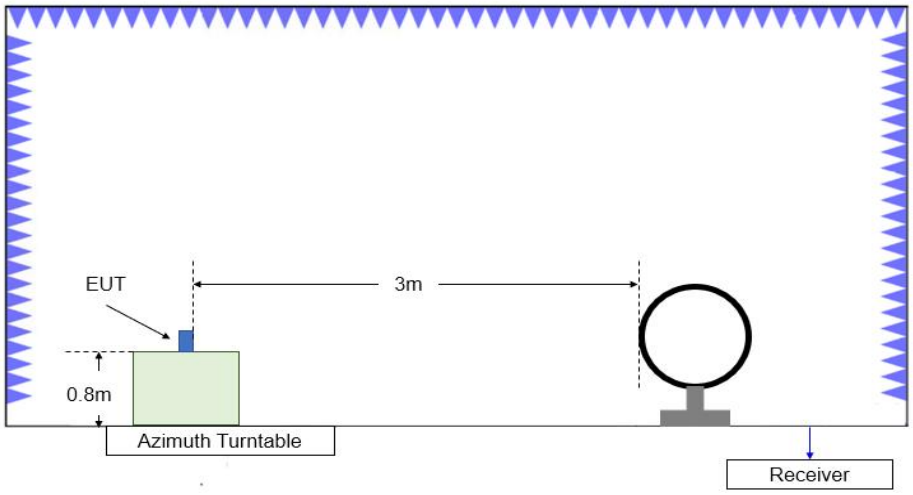



**Figure A.2.1. Test Site Diagram (9kHz-30MHz)**

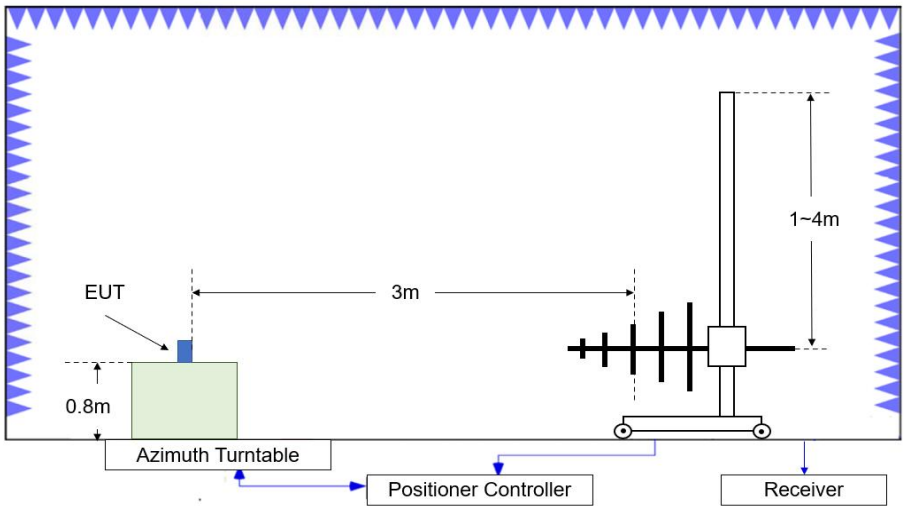



**Figure A.2.2. Test Site Diagram (30MHz-1GHz)**

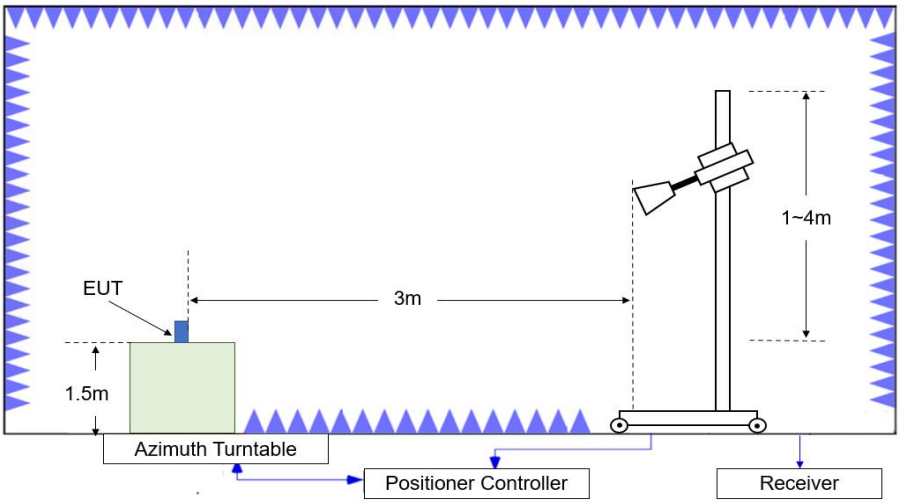



**Figure A.2.3. Test Site Diagram (1GHz-40GHz)**

**Test Procedures**

Radiated unwanted emissions from the EUT were measured according to ANSI C63.10.

Test setting

| Frequency of emission (MHz) | RBW/VBW | Sweep Time(s) |
|---|---|---|
| 30-1000 | 100kHz/300kHz | 5 |
| 1000-3000 | 1MHz/3MHz | 15 |
| 3000-18000 | 1MHz/3MHz | 40 |
| 18000-26500 | 1MHz/3MHz | 20 |

**Sample Calculation**

A "reference path loss" is established and the $A_{Rpl}$ is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

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

The measurement results are obtained as described below:
Result=$P_{Mea}$+$A_{Rpl=}$ $P_{Mea}$+Cable Loss+Antenna Factor

**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 the 10th harmonic of highest fundamental frequency or 40GHz, whichever is lower.

**Test Result**

**Peak**

**802.11b**

Ch1

| 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) |
|---|---|---|---|---|---|---|---|
| 17858.000 | 60.49 | -25.40 | 45.40 | 40.49 | 74.00 | 13.51 | V |
| 14173.000 | 52.43 | -29.40 | 41.70 | 40.13 | 74.00 | 21.57 | V |
| 4752.000 | 49.89 | -36.90 | 32.90 | 53.89 | 74.00 | 24.11 | V |
| 11881.500 | 49.23 | -31.00 | 39.80 | 40.43 | 74.00 | 24.77 | H |
| 8455.000 | 46.91 | -33.80 | 37.50 | 43.21 | 74.00 | 27.09 | H |
| 2354.100 | 57.54 | -19.20 | 28.40 | 48.34 | 74.00 | 16.46 | V |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17900.500 | 58.99 | -25.40 | 45.40 | 38.99 | 74.00 | 15.01 | H |
| 14195.000 | 52.66 | -29.40 | 41.70 | 40.36 | 74.00 | 21.34 | H |
| 11903.000 | 50.10 | -31.00 | 39.80 | 41.30 | 74.00 | 23.90 | H |
| 3164.000 | 48.96 | -37.50 | 30.90 | 55.56 | 74.00 | 25.04 | H |
| 9148.500 | 46.61 | -33.70 | 37.80 | 42.51 | 74.00 | 27.39 | V |
| 7804.500 | 44.90 | -34.70 | 36.60 | 43.00 | 74.00 | 29.10 | V |

Ch11

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17964.500 | 59.55 | -25.40 | 45.40 | 39.55 | 74.00 | 14.45 | H |
| 14568.000 | 52.86 | -28.30 | 41.70 | 39.46 | 74.00 | 21.14 | H |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11947.500 | 49.97 | -31.50 | 39.80 | 41.67 | 74.00 | 24.03 | V |
| 3181.000 | 48.54 | -37.40 | 31.20 | 54.74 | 74.00 | 25.46 | H |
| 8966.000 | 47.41 | -33.60 | 37.70 | 43.31 | 74.00 | 26.59 | V |
| 2490.100 | 57.58 | -19.00 | 28.50 | 48.08 | 74.00 | 16.42 | V |

**802.11g**

Ch1

| 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) |
|---|---|---|---|---|---|---|---|
| 17968.500 | 59.58 | -25.40 | 45.40 | 39.58 | 74.00 | 14.42 | V |
| 14639.000 | 52.81 | -28.30 | 41.70 | 39.41 | 74.00 | 21.19 | H |
| 12370.500 | 49.90 | -30.10 | 39.60 | 40.40 | 74.00 | 24.10 | H |
| 3167.000 | 48.41 | -37.50 | 30.90 | 55.01 | 74.00 | 25.59 | H |
| 9222.000 | 47.81 | -33.90 | 37.80 | 43.91 | 74.00 | 26.19 | V |
| 2389.200 | 58.89 | -19.20 | 28.40 | 49.69 | 74.00 | 15.11 | V |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17915.500 | 59.64 | -25.40 | 45.40 | 39.64 | 74.00 | 14.36 | H |
| 14160.500 | 52.43 | -29.40 | 41.70 | 40.13 | 74.00 | 21.57 | H |
| 4752.000 | 50.59 | -36.90 | 32.90 | 54.59 | 74.00 | 23.41 | V |
| 12330.500 | 49.62 | -30.10 | 39.60 | 40.12 | 74.00 | 24.38 | V |
| 9020.500 | 47.92 | -33.60 | 37.70 | 43.82 | 74.00 | 26.08 | H |
| 7408.500 | 44.77 | -34.90 | 36.60 | 43.07 | 74.00 | 29.23 | H |

Ch11

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17919.000 | 59.34 | -25.40 | 45.40 | 39.34 | 74.00 | 14.66 | H |
| 14157.000 | 52.40 | -29.40 | 41.80 | 40.00 | 74.00 | 21.60 | H |
| 12410.000 | 49.65 | -30.10 | 39.50 | 40.25 | 74.00 | 24.35 | H |
| 3148.000 | 47.68 | -37.50 | 30.90 | 54.28 | 74.00 | 26.32 | H |
| 9111.000 | 47.24 | -33.70 | 37.80 | 43.14 | 74.00 | 26.76 | V |
| 2485.600 | 61.71 | -19.00 | 28.50 | 52.21 | 74.00 | 12.29 | V |

**802.11n-HT20**

Ch1

| 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) |
|---|---|---|---|---|---|---|---|
| 17895.500 | 59.68 | -25.40 | 45.40 | 39.68 | 74.00 | 14.32 | H |
| 14165.500 | 52.32 | -29.40 | 41.70 | 40.02 | 74.00 | 21.68 | H |
| 12365.000 | 49.60 | -30.10 | 39.60 | 40.10 | 74.00 | 24.40 | H |
| 4752.000 | 49.06 | -36.90 | 32.90 | 53.06 | 74.00 | 24.94 | V |
| 8894.000 | 46.86 | -33.60 | 38.00 | 42.46 | 74.00 | 27.14 | H |
| 2390.000 | 58.85 | -19.20 | 28.40 | 49.65 | 74.00 | 15.15 | V |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17980.500 | 59.12 | -25.40 | 45.40 | 39.12 | 74.00 | 14.88 | H |
| 14655.500 | 52.34 | -28.30 | 41.40 | 39.24 | 74.00 | 21.66 | V |
| 11921.500 | 49.24 | -31.00 | 39.80 | 40.44 | 74.00 | 24.76 | V |
| 3160.500 | 48.51 | -37.50 | 30.90 | 55.11 | 74.00 | 25.49 | H |
| 8960.500 | 46.66 | -33.60 | 37.70 | 42.56 | 74.00 | 27.34 | H |
| 7910.500 | 44.97 | -34.60 | 36.90 | 42.67 | 74.00 | 29.03 | H |

Ch11

| 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) |
|---|---|---|---|---|---|---|---|
| 17906.000 | 58.90 | -25.40 | 45.40 | 38.90 | 74.00 | 15.10 | V |
| 14908.500 | 52.82 | -28.50 | 40.80 | 40.52 | 74.00 | 21.18 | V |
| 12809.500 | 49.88 | -30.40 | 39.80 | 40.48 | 74.00 | 24.12 | H |
| 3176.000 | 48.70 | -37.40 | 31.20 | 54.90 | 74.00 | 25.30 | H |
| 8881.500 | 47.20 | -33.60 | 38.00 | 42.80 | 74.00 | 26.80 | H |
| 2485.200 | 61.11 | -19.00 | 28.50 | 51.61 | 74.00 | 12.89 | V |

**802.11n-HT40**

Ch3

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17905.000 | 59.26 | -25.40 | 45.40 | 39.26 | 74.00 | 14.74 | H |
| 14086.500 | 52.40 | -28.70 | 41.80 | 39.30 | 74.00 | 21.60 | H |
| 12404.500 | 49.90 | -30.10 | 39.50 | 40.50 | 74.00 | 24.10 | H |
| 3172.500 | 49.67 | -37.40 | 31.20 | 55.87 | 74.00 | 24.33 | H |
| 8874.000 | 46.73 | -33.60 | 38.00 | 42.33 | 74.00 | 27.27 | H |
| 2387.500 | 60.05 | -19.20 | 28.40 | 50.85 | 74.00 | 13.95 | H |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17955.000 | 59.37 | -25.40 | 45.40 | 39.37 | 74.00 | 14.63 | V |
| 14664.000 | 52.53 | -28.30 | 41.40 | 39.43 | 74.00 | 21.47 | V |
| 11973.000 | 50.87 | -31.50 | 39.80 | 42.57 | 74.00 | 23.13 | H |
| 3167.000 | 48.40 | -37.50 | 30.90 | 55.00 | 74.00 | 25.60 | H |
| 8894.500 | 47.47 | -33.60 | 38.00 | 43.07 | 74.00 | 26.53 | V |
| 7969.000 | 46.11 | -34.60 | 36.90 | 43.81 | 74.00 | 27.89 | V |

Ch9

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17935.000 | 59.18 | -25.40 | 45.40 | 39.18 | 74.00 | 14.82 | V |
| 14179.000 | 53.29 | -29.40 | 41.70 | 40.99 | 74.00 | 20.71 | H |
| 12391.500 | 49.46 | -30.10 | 39.50 | 40.06 | 74.00 | 24.54 | H |
| 4752.000 | 48.05 | -36.90 | 32.90 | 52.05 | 74.00 | 25.95 | V |
| 7970.500 | 47.33 | -34.70 | 37.00 | 45.03 | 74.00 | 26.67 | V |
| 2487.500 | 64.32 | -19.00 | 28.50 | 54.82 | 74.00 | 9.68 | H |

**Average**

**802.11b**

Ch1

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17950.500 | 49.65 | -25.40 | 45.40 | 29.65 | 54.00 | 4.35 | V |
| 4752.000 | 43.29 | -36.90 | 32.90 | 47.29 | 54.00 | 10.71 | V |
| 14179.500 | 42.66 | -29.40 | 41.70 | 30.36 | 54.00 | 11.34 | H |
| 12391.000 | 40.45 | -30.10 | 39.50 | 31.05 | 54.00 | 13.55 | V |
| 6432.000 | 37.55 | -35.40 | 34.60 | 38.35 | 54.00 | 16.45 | V |
| 2387.300 | 46.33 | -19.20 | 28.40 | 37.13 | 54.00 | 7.67 | H |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17986.000 | 49.81 | -25.40 | 45.40 | 29.81 | 54.00 | 4.19 | V |
| 14536.000 | 42.61 | -28.70 | 41.80 | 29.51 | 54.00 | 11.39 | V |
| 4752.000 | 42.04 | -36.90 | 32.90 | 46.04 | 54.00 | 11.96 | V |
| 12350.000 | 39.73 | -30.10 | 39.60 | 30.23 | 54.00 | 14.27 | H |
| 5280.000 | 37.97 | -36.60 | 34.00 | 40.57 | 54.00 | 16.03 | V |
| 9748.000 | 37.48 | -33.10 | 37.70 | 32.88 | 54.00 | 16.52 | V |

Ch11

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17920.500 | 49.76 | -25.40 | 45.40 | 29.76 | 54.00 | 4.24 | H |
| 14159.500 | 42.64 | -29.40 | 41.70 | 30.34 | 54.00 | 11.36 | V |
| 4752.000 | 42.04 | -36.90 | 32.90 | 46.04 | 54.00 | 11.96 | V |
| 12402.500 | 39.85 | -30.10 | 39.50 | 30.45 | 54.00 | 14.15 | H |
| 6565.000 | 38.76 | -35.20 | 34.90 | 39.06 | 54.00 | 15.24 | V |
| 2488.000 | 47.86 | -19.00 | 28.50 | 38.36 | 54.00 | 6.14 | H |

**802.11g**

Ch1

| 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) |
|---|---|---|---|---|---|---|---|
| 17965.000 | 49.97 | -25.40 | 45.40 | 29.97 | 54.00 | 4.03 | H |
| 14180.000 | 42.71 | -29.40 | 41.70 | 30.41 | 54.00 | 11.29 | V |
| 4751.500 | 41.11 | -36.90 | 32.90 | 45.11 | 54.00 | 12.89 | V |
| 12369.000 | 39.98 | -30.10 | 39.60 | 30.48 | 54.00 | 14.02 | V |
| 6432.000 | 37.99 | -35.40 | 34.60 | 38.79 | 54.00 | 16.01 | V |
| 2367.200 | 46.07 | -19.20 | 28.40 | 36.87 | 54.00 | 7.93 | H |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17965.000 | 50.01 | -25.40 | 45.40 | 30.01 | 54.00 | 3.99 | V |
| 14643.000 | 43.31 | -28.30 | 41.70 | 29.91 | 54.00 | 10.69 | V |
| 4752.000 | 43.09 | -36.90 | 32.90 | 47.09 | 54.00 | 10.91 | V |
| 12354.000 | 39.87 | -30.10 | 39.60 | 30.37 | 54.00 | 14.13 | V |
| 6498.500 | 37.38 | -35.70 | 34.60 | 38.48 | 54.00 | 16.62 | H |
| 8961.000 | 37.32 | -33.60 | 37.70 | 33.22 | 54.00 | 16.68 | V |

Ch11

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17956.500 | 49.62 | -25.40 | 45.40 | 29.62 | 54.00 | 4.38 | V |
| 14196.500 | 43.28 | -29.40 | 41.70 | 30.98 | 54.00 | 10.72 | H |
| 12427.000 | 40.67 | -30.10 | 39.50 | 31.27 | 54.00 | 13.33 | H |
| 4752.000 | 40.59 | -36.90 | 32.90 | 44.59 | 54.00 | 13.41 | V |
| 5279.500 | 38.17 | -36.60 | 34.00 | 40.77 | 54.00 | 15.83 | V |
| 2485.600 | 48.83 | -19.00 | 28.50 | 39.33 | 54.00 | 5.17 | V |

**802.11n-HT20**

Ch1

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17939.500 | 49.87 | -25.40 | 45.40 | 29.87 | 54.00 | 4.13 | H |
| 4752.000 | 43.75 | -36.90 | 32.90 | 47.75 | 54.00 | 10.25 | V |
| 14120.500 | 42.62 | -29.40 | 41.80 | 30.22 | 54.00 | 11.38 | H |
| 12385.000 | 39.94 | -30.10 | 39.50 | 30.54 | 54.00 | 14.06 | H |
| 5280.000 | 38.56 | -36.60 | 34.00 | 41.16 | 54.00 | 15.44 | V |
| 2344.000 | 46.06 | -19.20 | 28.40 | 36.86 | 54.00 | 7.94 | H |

Ch6

| 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) |
|---|---|---|---|---|---|---|---|
| 17973.000 | 49.47 | -25.40 | 45.40 | 29.47 | 54.00 | 4.53 | V |
| 14103.500 | 42.79 | -28.70 | 41.80 | 29.69 | 54.00 | 11.21 | V |
| 4752.000 | 41.24 | -36.90 | 32.90 | 45.24 | 54.00 | 12.76 | V |
| 11904.500 | 39.92 | -31.00 | 39.80 | 31.12 | 54.00 | 14.08 | H |
| 5280.000 | 37.87 | -36.60 | 34.00 | 40.47 | 54.00 | 16.13 | V |
| 9223.000 | 37.05 | -33.90 | 37.80 | 33.15 | 54.00 | 16.95 | V |

Ch11

| 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) |
|---|---|---|---|---|---|---|---|
| 17966.000 | 49.79 | -25.40 | 45.40 | 29.79 | 54.00 | 4.21 | H |
| 14615.500 | 43.06 | -28.30 | 41.70 | 29.66 | 54.00 | 10.94 | H |
| 4751.500 | 41.56 | -36.90 | 32.90 | 45.56 | 54.00 | 12.44 | V |
| 12423.000 | 40.06 | -30.10 | 39.50 | 30.66 | 54.00 | 13.94 | H |
| 5280.000 | 38.86 | -36.60 | 34.00 | 41.46 | 54.00 | 15.14 | V |
| 2485.000 | 48.28 | -19.00 | 28.50 | 38.78 | 54.00 | 5.72 | V |

**802.11n-HT40**

Ch3

| 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) |
|---|---|---|---|---|---|---|---|
| 17907.500 | 49.65 | -25.40 | 45.40 | 29.65 | 54.00 | 4.35 | H |
| 14197.500 | 42.71 | -29.40 | 41.70 | 30.41 | 54.00 | 11.29 | H |
| 4752.000 | 40.32 | -36.90 | 32.90 | 44.32 | 54.00 | 13.68 | V |
| 12510.500 | 39.78 | -30.10 | 39.40 | 30.48 | 54.00 | 14.22 | H |
| 6458.500 | 38.22 | -35.70 | 34.60 | 39.32 | 54.00 | 15.78 | V |
| 2388.200 | 48.53 | -19.20 | 28.40 | 39.33 | 54.00 | 5.47 | H |

Ch6

| Frequency (MHz) | Measurement Result (dBuV/m) | Cable Loss (dB) | Antenna Factor (dB/m) | Receiver Reading (dBuV) | Limit (dBuV/m) | Margin (dB) | Antenna Pol. (H/V) |
|---|---|---|---|---|---|---|---|
| 17919.500 | 49.55 | -25.40 | 45.40 | 29.55 | 54.00 | 4.45 | H |
| 4751.500 | 43.09 | -36.90 | 32.90 | 47.09 | 54.00 | 10.91 | V |
| 14155.000 | 42.84 | -29.40 | 41.80 | 30.44 | 54.00 | 11.16 | V |
| 12354.500 | 40.07 | -30.10 | 39.60 | 30.57 | 54.00 | 13.93 | H |
| 5280.000 | 38.37 | -36.60 | 34.00 | 40.97 | 54.00 | 15.63 | V |
| 9216.500 | 37.22 | -33.90 | 37.80 | 33.32 | 54.00 | 16.78 | H |

Ch9

| 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) |
|---|---|---|---|---|---|---|---|
| 17962.000 | 50.06 | -25.40 | 45.40 | 30.06 | 54.00 | 3.94 | H |
| 14081.000 | 42.96 | -28.70 | 41.80 | 29.86 | 54.00 | 11.04 | H |
| 4752.000 | 41.81 | -36.90 | 32.90 | 45.81 | 54.00 | 12.19 | V |
| 12894.500 | 40.22 | -30.60 | 39.80 | 31.02 | 54.00 | 13.78 | V |
| 5279.500 | 39.44 | -36.60 | 34.00 | 42.04 | 54.00 | 14.56 | V |
| 2485.500 | 53.56 | -19.00 | 28.50 | 44.06 | 54.00 | 0.44 | V |

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

**Band edge compliance**

**802.11b mode**

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|---|---|---|---|---|
| 802.11b | 1 | 2.31GHz~2.43GHz---L | Fig.1 | P |
| | 11 | 2.45GHz~2.50GHz---H | Fig.2 | P |

**802.11g mode**

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|---|---|---|---|---|
| 802.11g | 1 | 2.31GHz~2.43GHz---L | Fig.3 | P |
| | 11 | 2.45GHz~2.50GHz---H | Fig.4 | P |

**802.11n-HT20 mode**

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|---|---|---|---|---|
| 802.11n (HT20) | 1 | 2.31GHz~2.43GHz---L | Fig.5 | P |
| | 11 | 2.45GHz~2.50GHz---H | Fig.6 | P |

**802.11n-HT40 mode**

| Mode | Channel | Frequency Range | Test Results | Conclusion |
|---|---|---|---|---|
| 802.11n (HT40) | 3 | 2.31GHz~2.43GHz---L | Fig.7 | P |
| | 9 | 2.45GHz~2.50GHz---H | Fig.8 | P |

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

**Test graphs as below:**

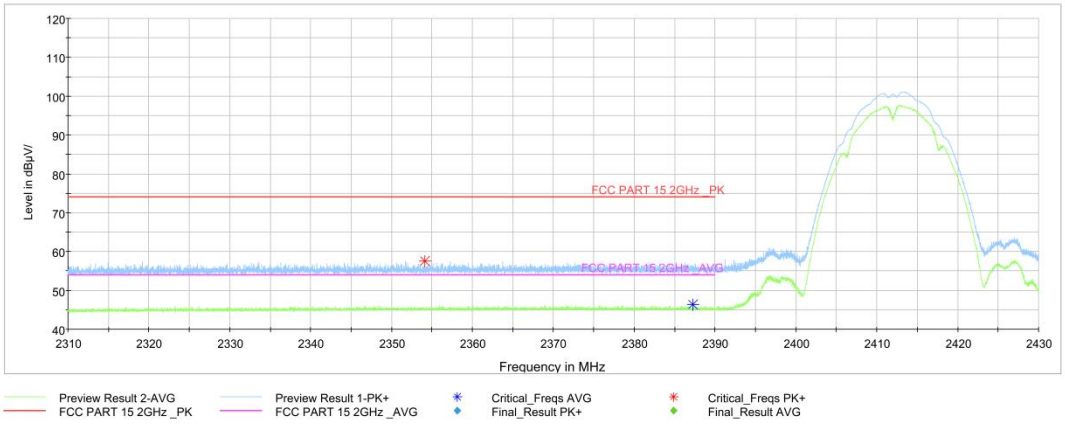



**Fig.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.43GHz**

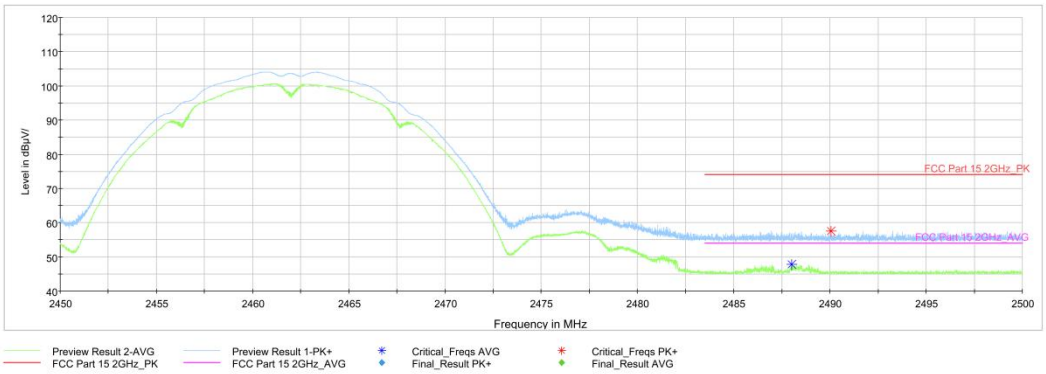



**Fig.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

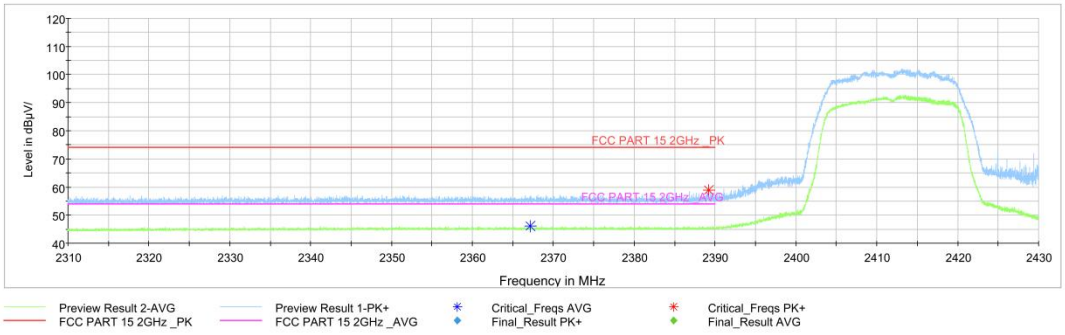



**Fig.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.43GHz**

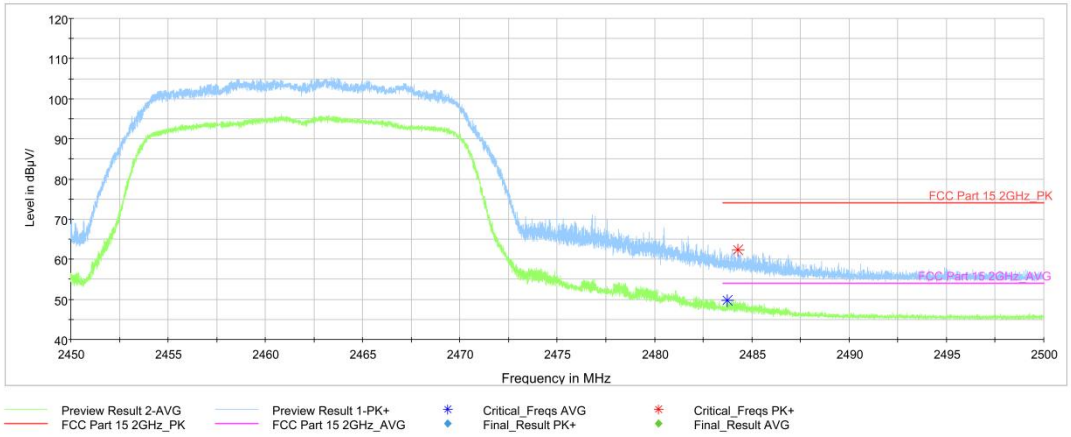



**Fig.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

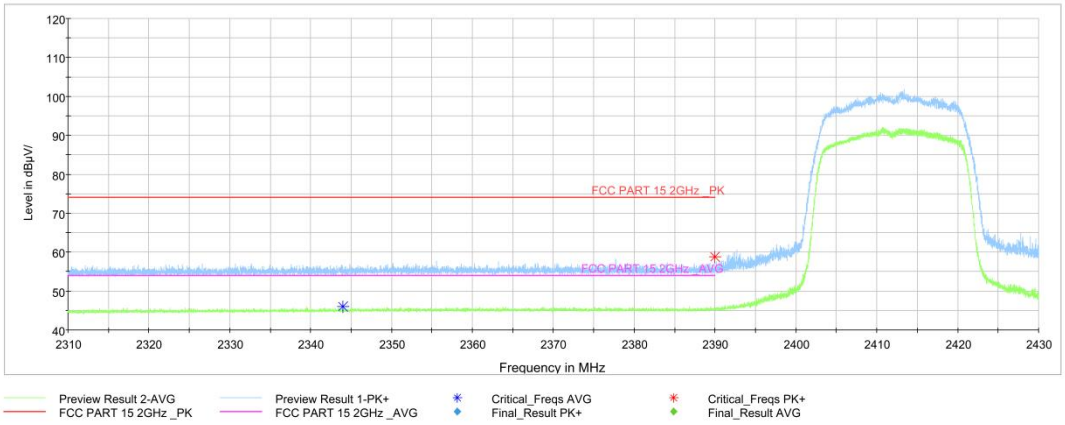



**Fig.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.43GHz**

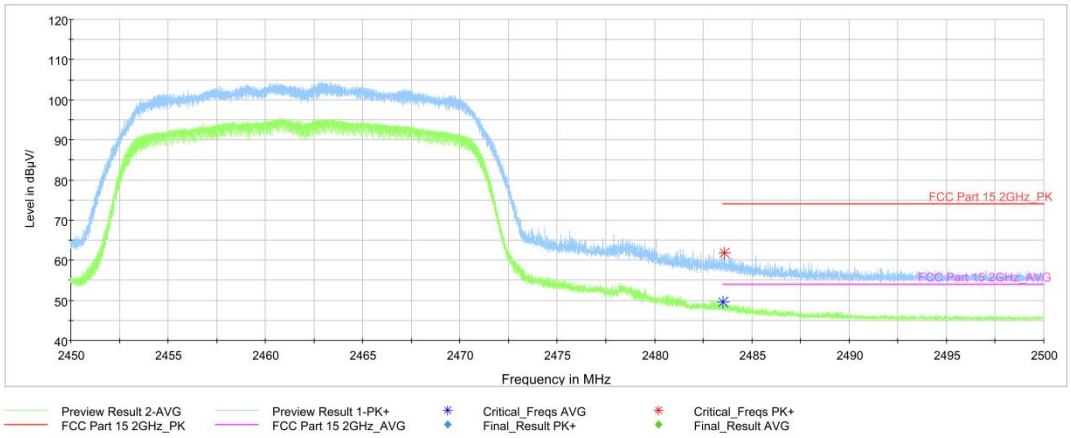



**Fig.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

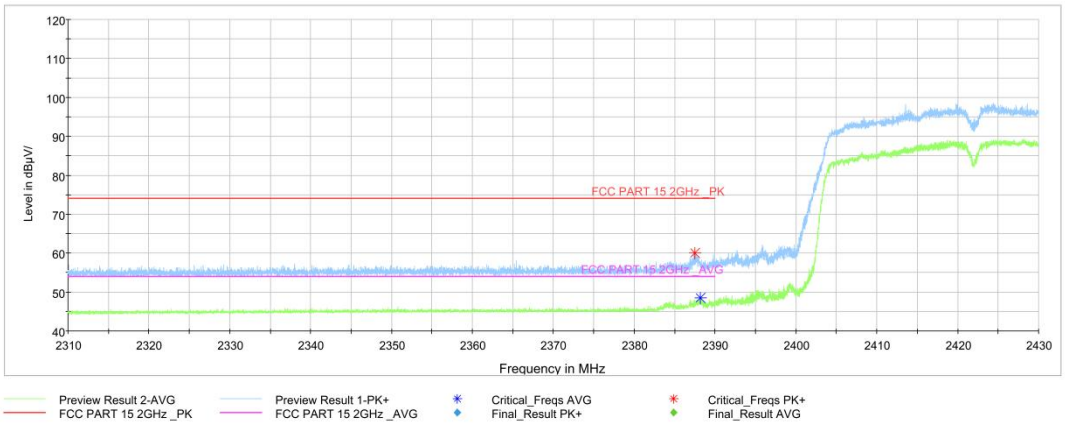



**Fig.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.43GHz**

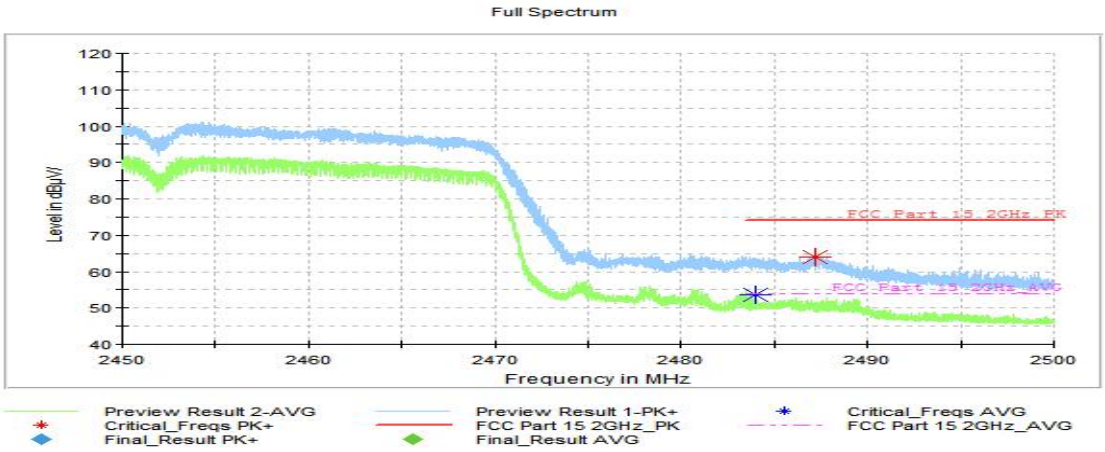



**Fig.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

## A.8. AC Power-line 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.

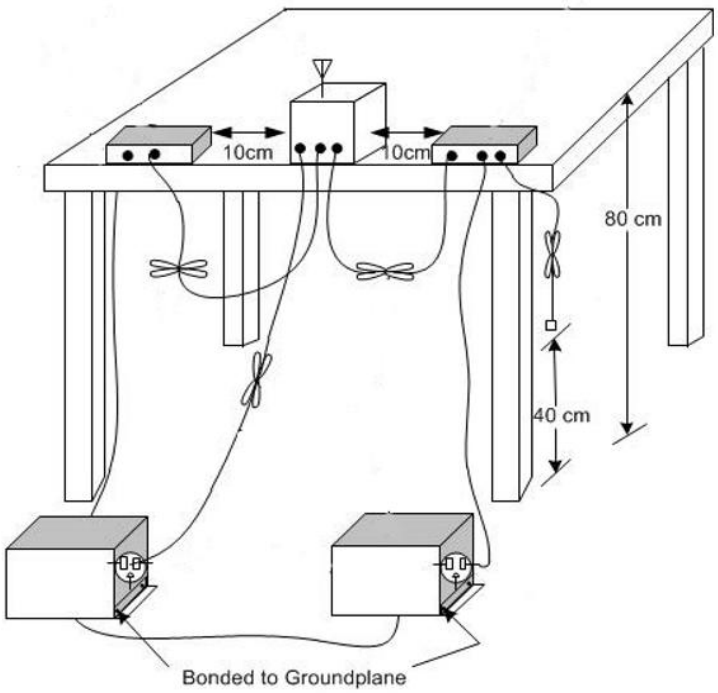
The measurement bandwidth is:

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

**Test Condition:**

| Voltage（V） | Frequency（Hz） |
|---|---|
| 120 | 60 |

**Test setup**



**Measurement Result and limit:**

WLAN (Quasi-peak Limit)

| Frequency range (MHz) | Quasi-peak Limit (dBμV) | Result (dBμV) | | Conclusion |
|---|---|---|---|---|
| | | With charger | | |
| | | 802.11b | Idle | |
| 0.15 to 0.5 | 66 to 56 | Fig.A.8.1 | Fig.A.8.2 | 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 | | |
| | | 802.11b | Idle | |
| 0.15 to 0.5 | 56 to 46 | Fig.A.8.1 | Fig.A.8.2 | 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:**

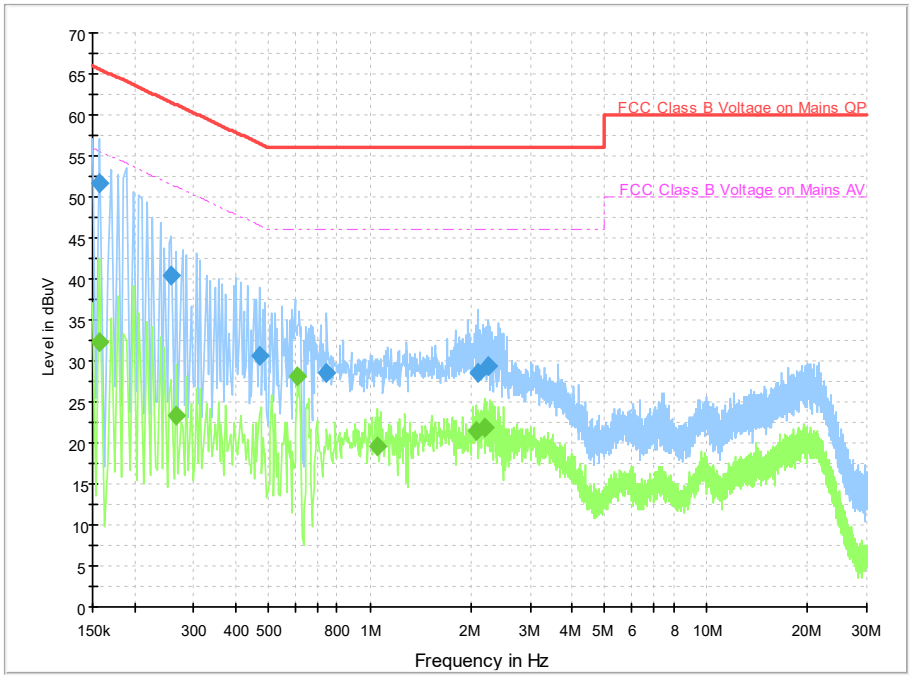



**Fig.A.8.1 AC Powerline Conducted Emission-802.11b**

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

| Frequency (MHz) | QuasiPeak (dBuV) | Meas. Time | Band width | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|---|---|---|---|---|---|---|---|---|
| 0.158000 | 51.6 | 2000.0 | 9.000 | On | N | 19.9 | 14.0 | 65.6 |
| 0.258000 | 40.4 | 2000.0 | 9.000 | On | N | 19.8 | 21.1 | 61.5 |
| 0.470000 | 30.6 | 2000.0 | 9.000 | On | L1 | 20.0 | 26.0 | 56.5 |
| 0.746000 | 28.6 | 2000.0 | 9.000 | On | L1 | 20.0 | 27.4 | 56.0 |
| 2.098000 | 28.5 | 2000.0 | 9.000 | On | L1 | 19.8 | 27.5 | 56.0 |
| 2.258000 | 29.3 | 2000.0 | 9.000 | On | L1 | 19.8 | 26.7 | 56.0 |

Final Result 2

| Frequency (MHz) | QuasiPeak (dBuV) | Meas. Time | Band width | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|---|---|---|---|---|---|---|---|---|
| 0.158000 | 32.3 | 2000.0 | 9.000 | On | L1 | 19.9 | 23.3 | 55.6 |
| 0.266000 | 23.3 | 2000.0 | 9.000 | On | N | 19.8 | 27.9 | 51.2 |
| 0.610000 | 28.0 | 2000.0 | 9.000 | On | L1 | 20.0 | 18.0 | 46.0 |
| 1.054000 | 19.6 | 2000.0 | 9.000 | On | L1 | 19.9 | 26.4 | 46.0 |
| 2.078000 | 21.4 | 2000.0 | 9.000 | On | L1 | 19.8 | 24.6 | 46.0 |
| 2.186000 | 21.8 | 2000.0 | 9.000 | On | L1 | 19.8 | 24.2 | 46.0 |

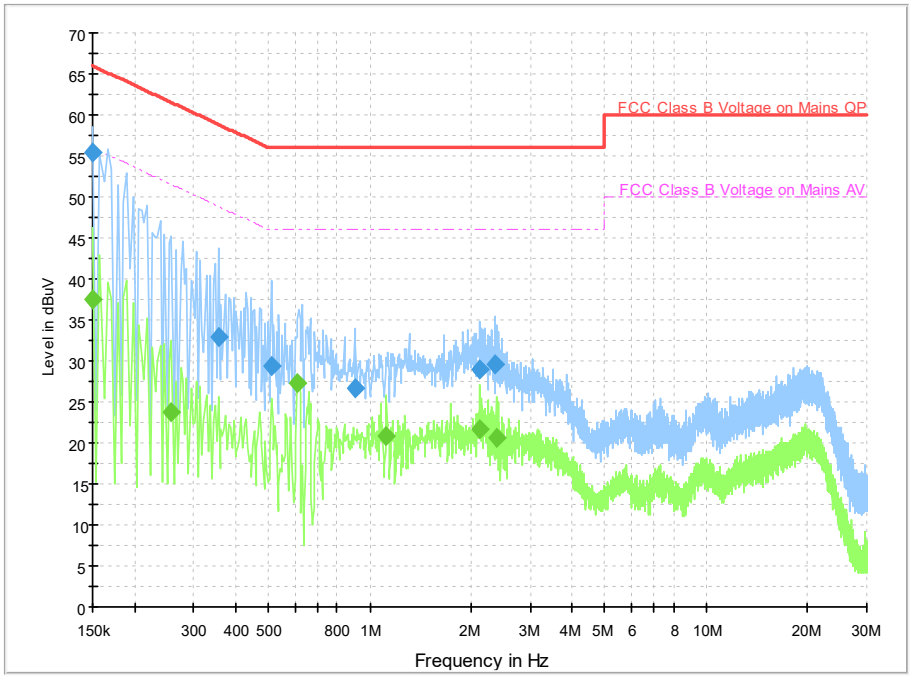



**Fig.A.8.2 AC Powerline Conducted Emission-Idle**

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

| Frequency (MHz) | QuasiPeak (dBuV) | Meas. Time | Band width | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|---|---|---|---|---|---|---|---|---|
| 0.150000 | 55.3 | 2000.0 | 9.000 | On | L1 | 20.1 | 10.7 | 66.0 |
| 0.354000 | 33.0 | 2000.0 | 9.000 | On | L1 | 19.9 | 25.9 | 58.9 |
| 0.510000 | 29.4 | 2000.0 | 9.000 | On | L1 | 20.0 | 26.6 | 56.0 |
| 0.902000 | 26.7 | 2000.0 | 9.000 | On | L1 | 19.9 | 29.3 | 56.0 |
| 2.118000 | 29.0 | 2000.0 | 9.000 | On | L1 | 19.8 | 27.0 | 56.0 |
| 2.358000 | 29.5 | 2000.0 | 9.000 | On | L1 | 19.8 | 26.5 | 56.0 |

Final Result 2

| Frequency (MHz) | QuasiPeak (dBuV) | Meas. Time | Band width | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBuV) |
|---|---|---|---|---|---|---|---|---|
| 0.150000 | 37.5 | 2000.0 | 9.000 | On | L1 | 20.1 | 18.5 | 56.0 |
| 0.258000 | 23.7 | 2000.0 | 9.000 | On | L1 | 19.9 | 27.8 | 51.5 |
| 0.610000 | 27.3 | 2000.0 | 9.000 | On | L1 | 20.0 | 18.7 | 46.0 |
| 1.122000 | 20.9 | 2000.0 | 9.000 | On | L1 | 19.9 | 25.1 | 46.0 |
| 2.118000 | 21.7 | 2000.0 | 9.000 | On | L1 | 19.8 | 24.3 | 46.0 |
| 2.374000 | 20.7 | 2000.0 | 9.000 | On | L1 | 19.8 | 25.3 | 46.0 |

## A.9. Antenna Requirement

The antenna of the device is permanently attached. There are no provisions for connection to an external antenna.

The unit complies with the requirement of FCC Part 15.203.

# ANNEX B: EUT parameters

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

# ANNEX C: Accreditation Certificate

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 23rd day of July 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 7049.01
Valid to July 31, 2026

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

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