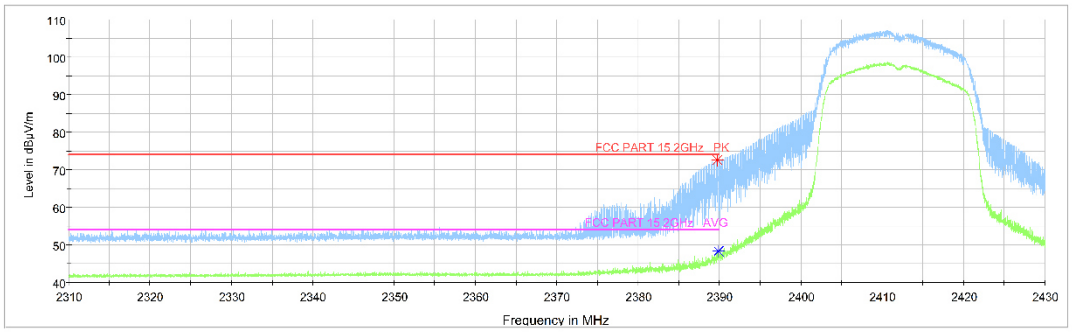



**Fig. 7.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.43GHz**

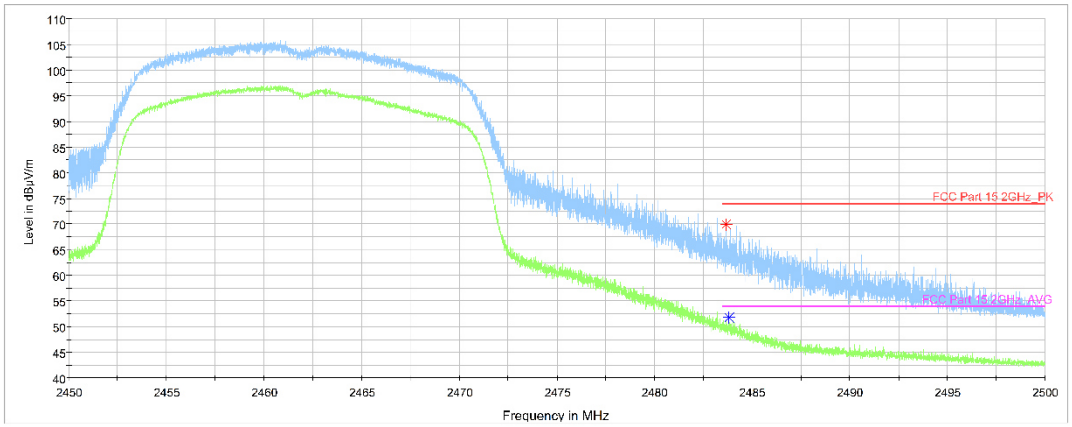



**Fig. 7.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

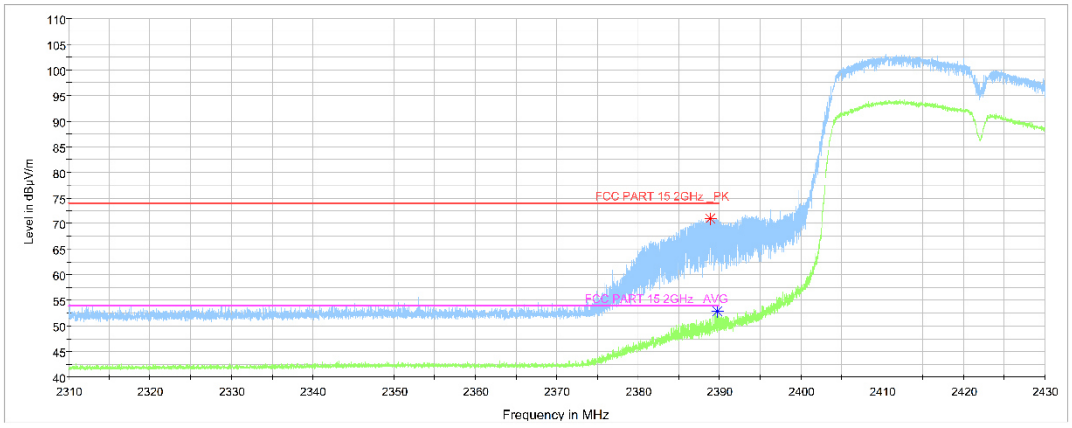



**Fig. 7.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.43GHz**

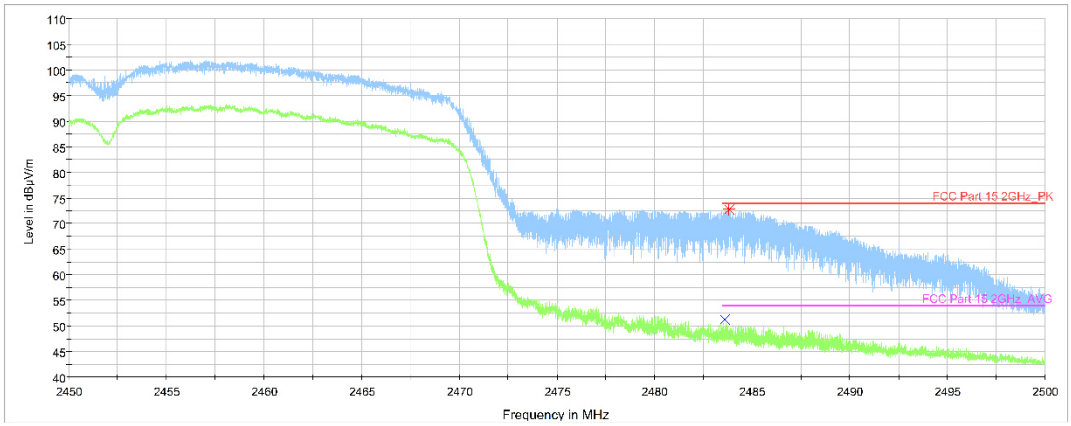



**Fig. 7.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz**

## 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.

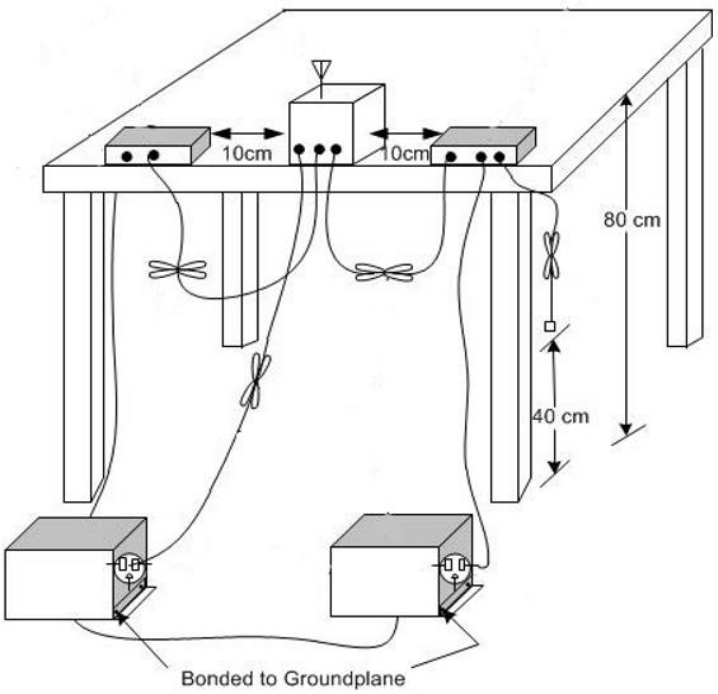
The measurement bandwidth is:

| 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:**

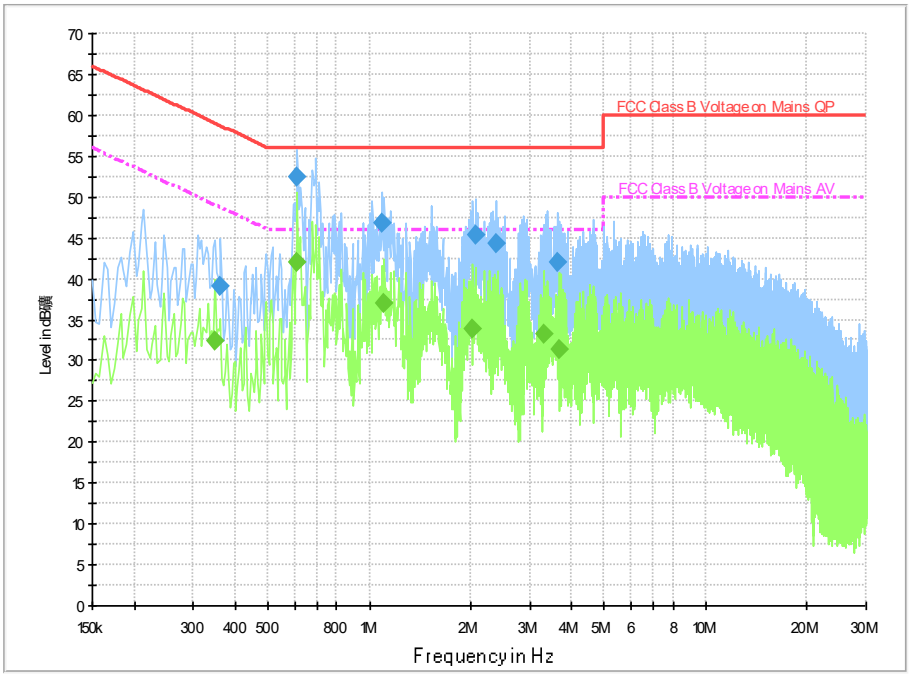



**Fig.A.8.1 AC Powerline Conducted Emission-802.11b**

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

**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 0.362000 | 39.2 | 2000.0 | 9.000 | On | L1 | 19.8 | 19.5 | 58.7 | |
| 0.610000 | 52.5 | 2000.0 | 9.000 | On | L1 | 19.8 | 3.5 | 56.0 | |
| 1.090000 | 46.7 | 2000.0 | 9.000 | On | L1 | 19.6 | 9.3 | 56.0 | |
| 2.066000 | 45.4 | 2000.0 | 9.000 | On | L1 | 19.6 | 10.6 | 56.0 | |
| 2.382000 | 44.2 | 2000.0 | 9.000 | On | L1 | 19.6 | 11.8 | 56.0 | |
| 3.642000 | 42.1 | 2000.0 | 9.000 | On | L1 | 19.6 | 13.9 | 56.0 | |

**Final Result 2**

| Frequency (MHz) | CAverage (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 0.346000 | 32.3 | 2000.0 | 9.000 | On | L1 | 19.8 | 16.8 | 49.1 | |
| 0.610000 | 42.0 | 2000.0 | 9.000 | On | L1 | 19.8 | 4.0 | 46.0 | |
| 1.106000 | 37.1 | 2000.0 | 9.000 | On | L1 | 19.6 | 9.0 | 46.0 | |
| 2.034000 | 33.8 | 2000.0 | 9.000 | On | L1 | 19.6 | 12.2 | 46.0 | |
| 3.318000 | 33.3 | 2000.0 | 9.000 | On | L1 | 19.6 | 12.7 | 46.0 | |
| 3.674000 | 31.4 | 2000.0 | 9.000 | On | L1 | 19.6 | 14.6 | 46.0 | |

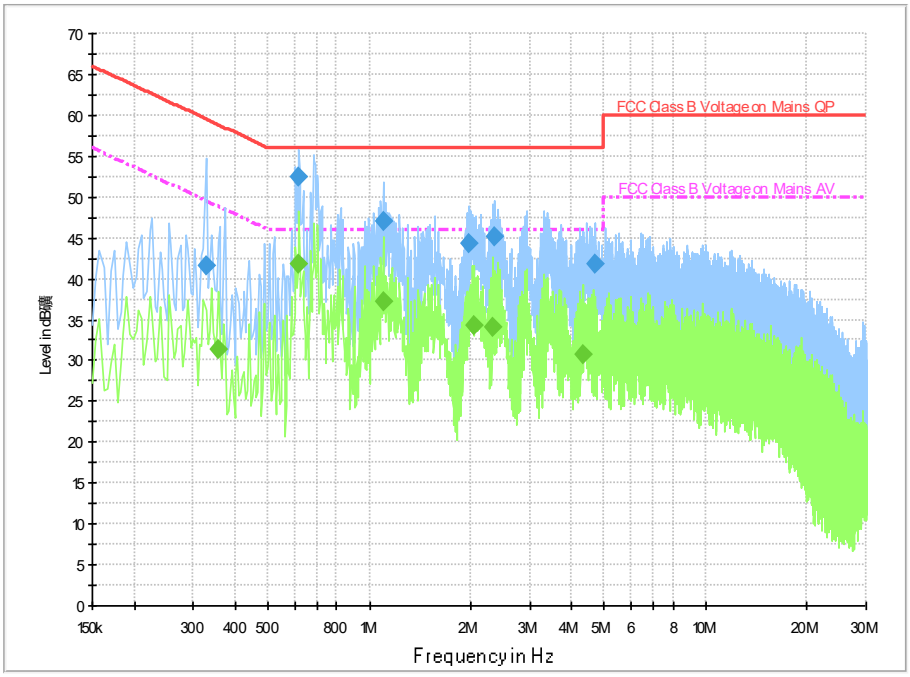



**Fig.A.8.2 AC Powerline Conducted Emission-Idle**

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

**Final Result 1**

| Frequency (MHz) | QuasiPeak (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 0.326000 | 41.6 | 2000.0 | 9.000 | On | L1 | 19.8 | 17.9 | 59.6 | |
| 0.618000 | 52.5 | 2000.0 | 9.000 | On | L1 | 19.7 | 3.5 | 56.0 | |
| 1.098000 | 47.1 | 2000.0 | 9.000 | On | L1 | 19.6 | 8.9 | 56.0 | |
| 1.986000 | 44.3 | 2000.0 | 9.000 | On | L1 | 19.6 | 11.7 | 56.0 | |
| 2.350000 | 45.2 | 2000.0 | 9.000 | On | L1 | 19.6 | 10.8 | 56.0 | |
| 4.678000 | 41.8 | 2000.0 | 9.000 | On | L1 | 19.6 | 14.2 | 56.0 | |

**Final Result 2**

| Frequency (MHz) | CAverage (dBµV) | Meas. Time (ms) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBµV) | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 0.354000 | 31.3 | 2000.0 | 9.000 | On | L1 | 19.8 | 17.6 | 48.9 | |
| 0.618000 | 41.8 | 2000.0 | 9.000 | On | L1 | 19.7 | 4.2 | 46.0 | |
| 1.098000 | 37.3 | 2000.0 | 9.000 | On | L1 | 19.6 | 8.7 | 46.0 | |
| 2.046000 | 34.4 | 2000.0 | 9.000 | On | L1 | 19.6 | 11.6 | 46.0 | |
| 2.338000 | 34.0 | 2000.0 | 9.000 | On | L1 | 19.6 | 12.0 | 46.0 | |
| 4.314000 | 30.8 | 2000.0 | 9.000 | On | L1 | 19.6 | 15.2 | 46.0 | |

## 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 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*****