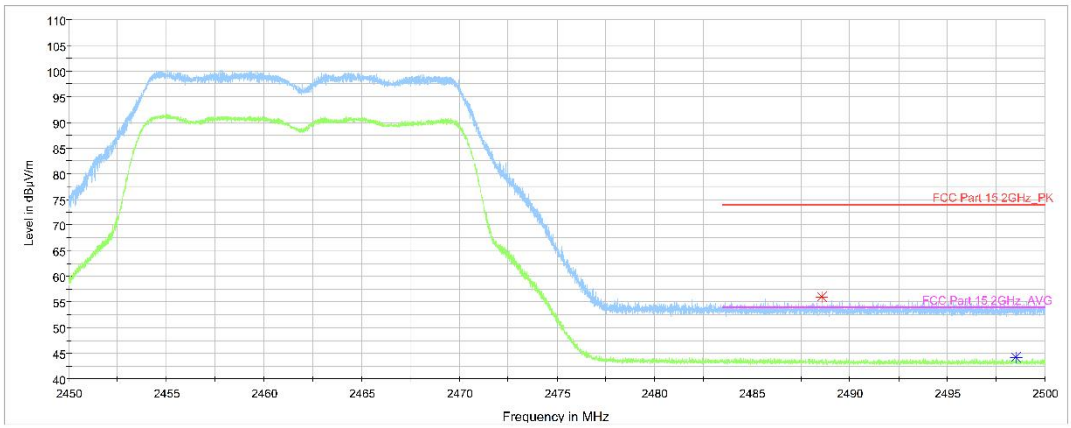

Fig.A.7.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, MIMO, 2.45 GHz - 2.50GHz

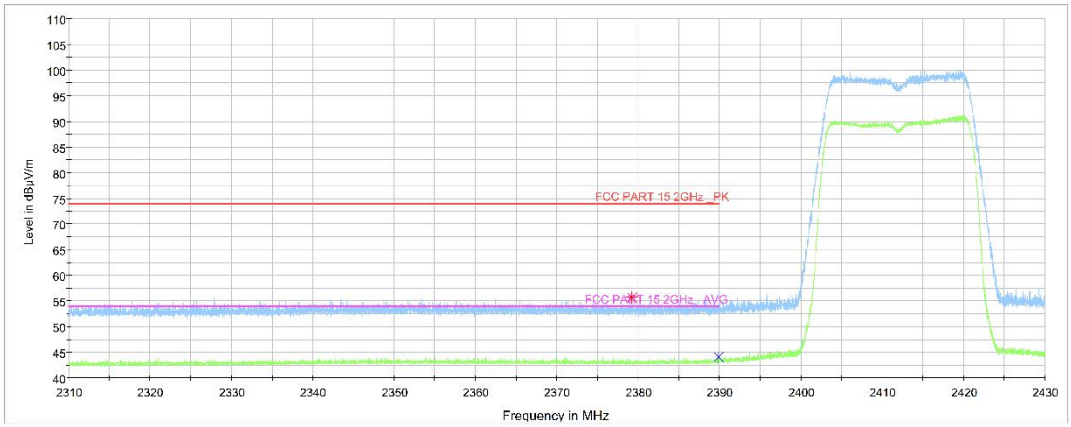

Fig.A.7.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, MIMO,2.31 GHz - 2.43GHz

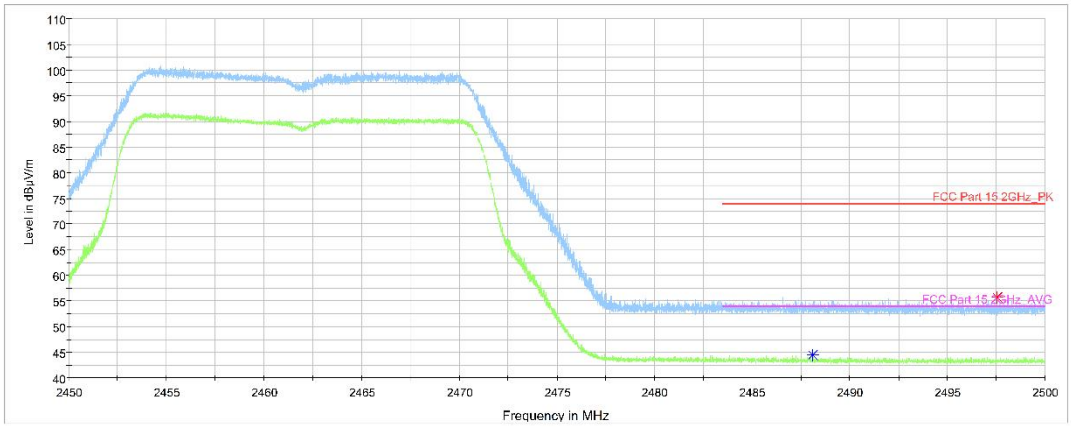

Fig.A.7.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, MIMO,2.45 GHz - 2.50GHz

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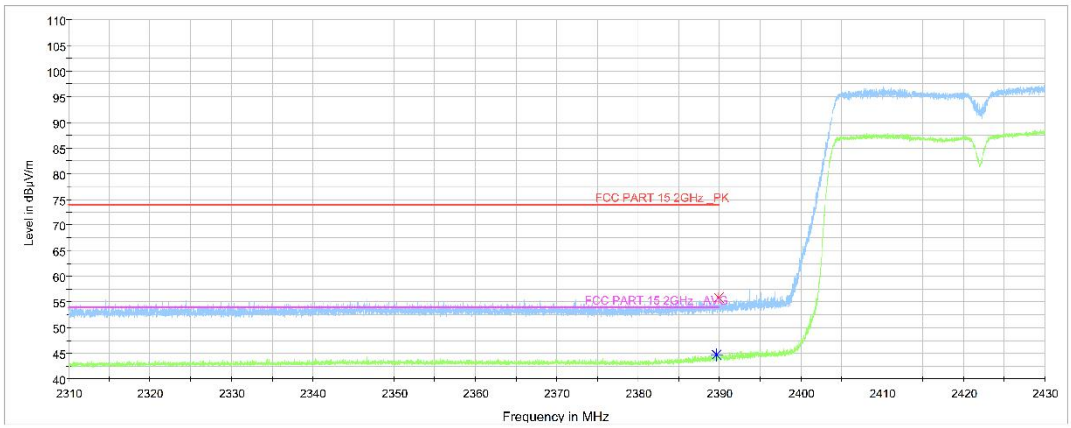

Fig.A.7.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, MIMO,2.31 GHz - 2.43GHz

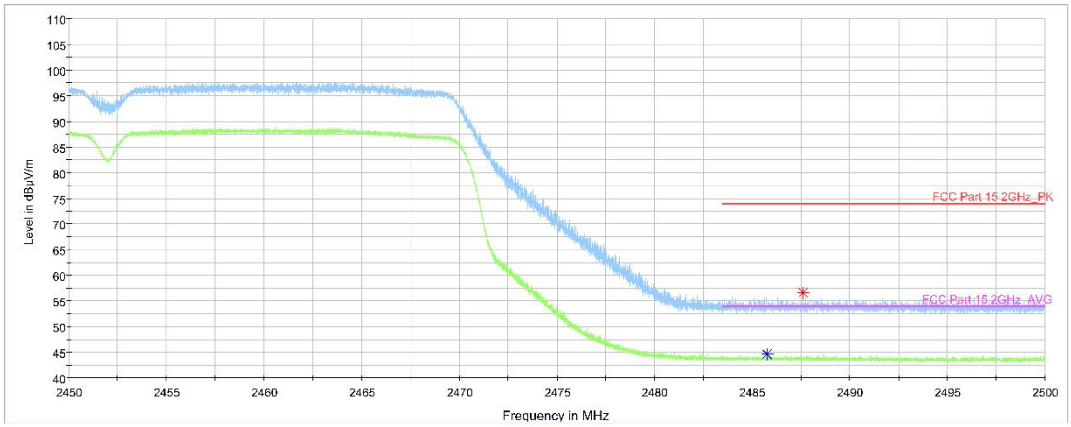

Fig.A.7.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, MIMO,2.45 GHz - 2.50GHz

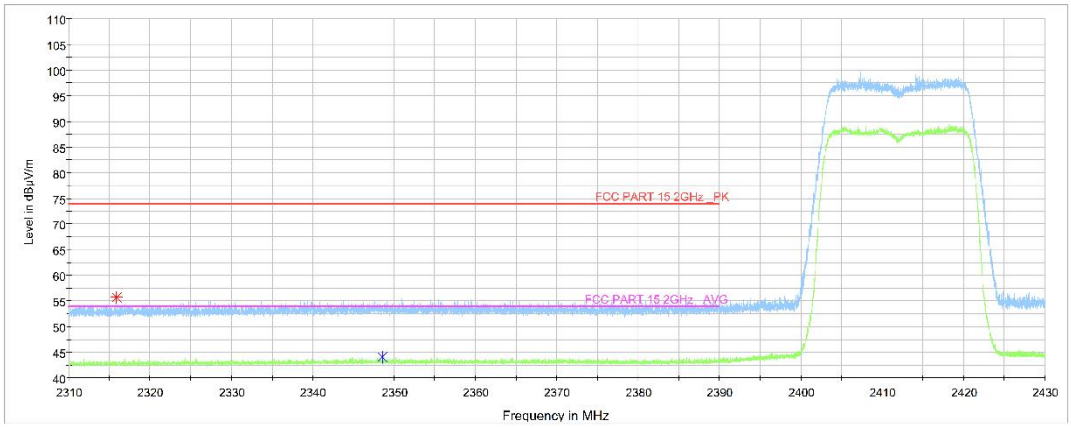

Fig.A.7.2.9 Transmitter Spurious Emission - Radiated (Power): 802.11ac-HT20, ch1, MIMO,2.31 GHz - 2.43GHz

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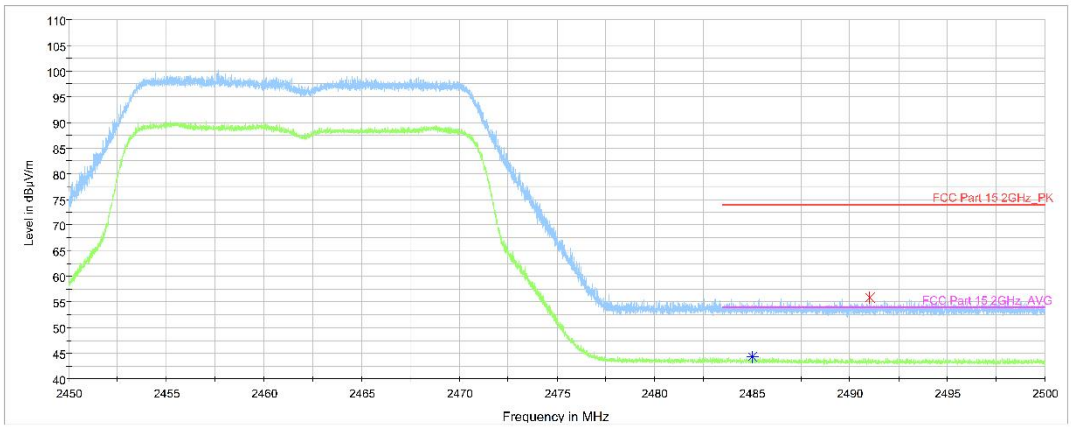

Fig.A.7.2.10 Transmitter Spurious Emission - Radiated (Power): 802.11ac-HT20, ch11, MIMO,2.45 GHz - 2.50GHz

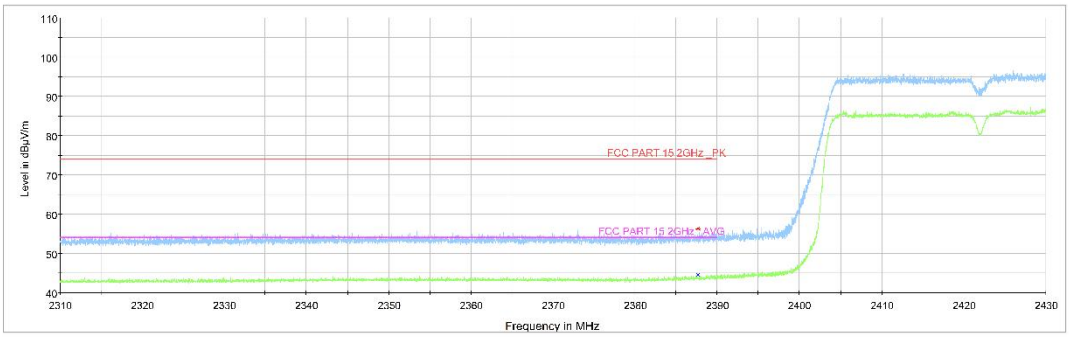

Fig.A.7.2.11 Transmitter Spurious Emission - Radiated (Power): 802.11ac-HT40, ch3, MIMO,2.31 GHz - 2.43GHz

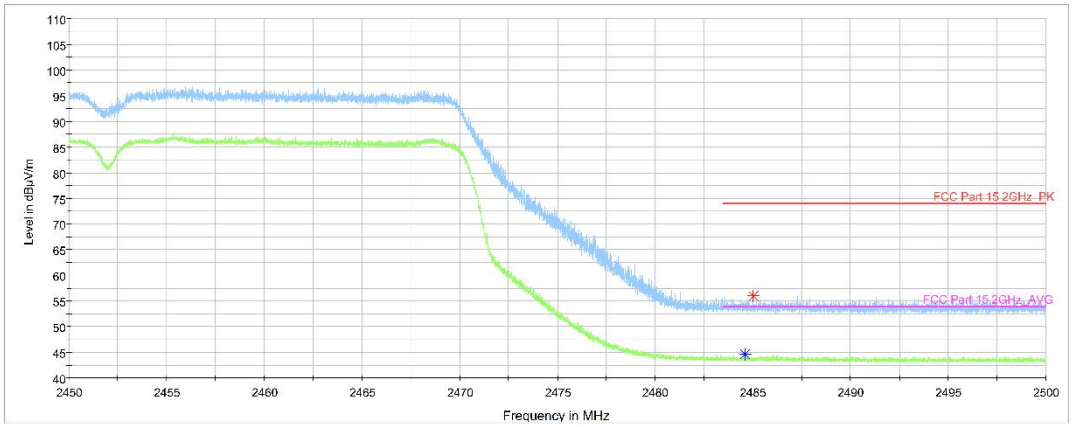

Fig.A.7.2.12 Transmitter Spurious Emission - Radiated (Power): 802.11ac-HT40, ch9, MIMO,2.45 GHz - 2.50GHz

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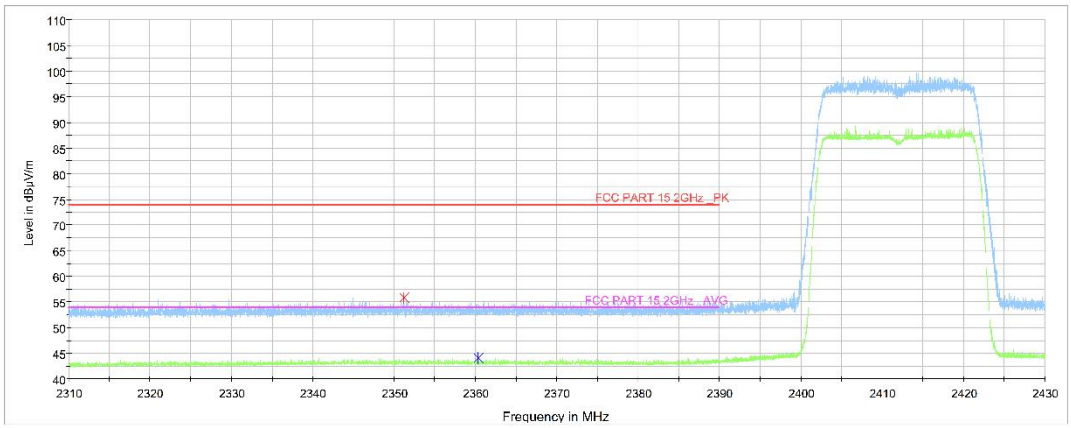

Fig.A.7.2.13 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, MIMO,2.31 GHz - 2.43GHz

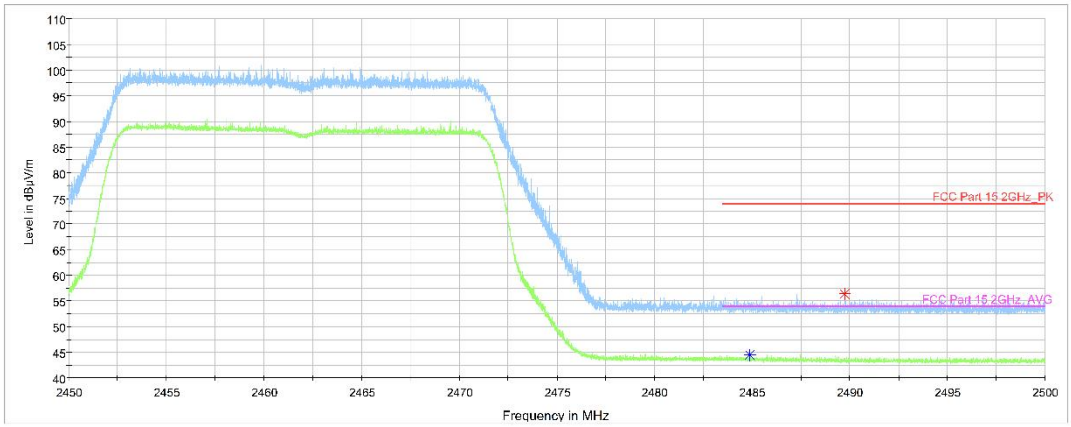

Fig.A.7.2.14 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, MIMO,2.45 GHz - 2.50GHz

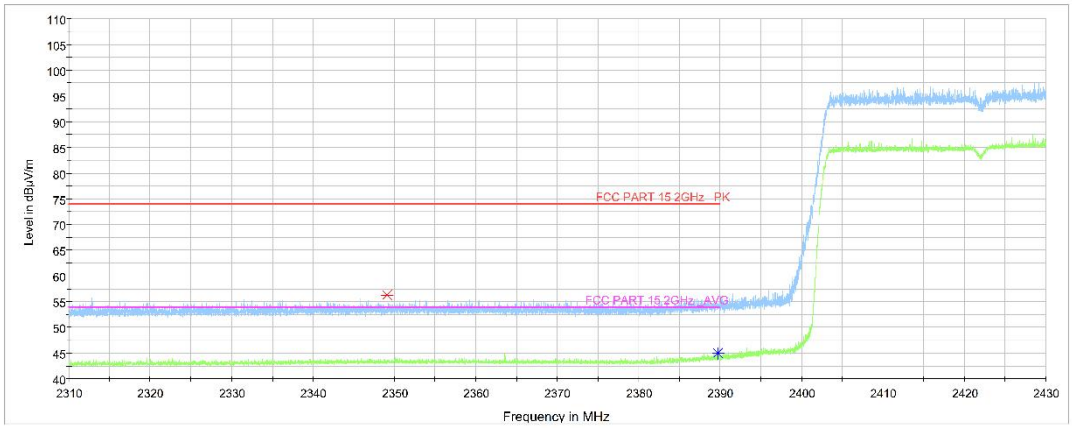

Fig.A.7.2.15 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, MIMO,2.31 GHz - 2.43GHz

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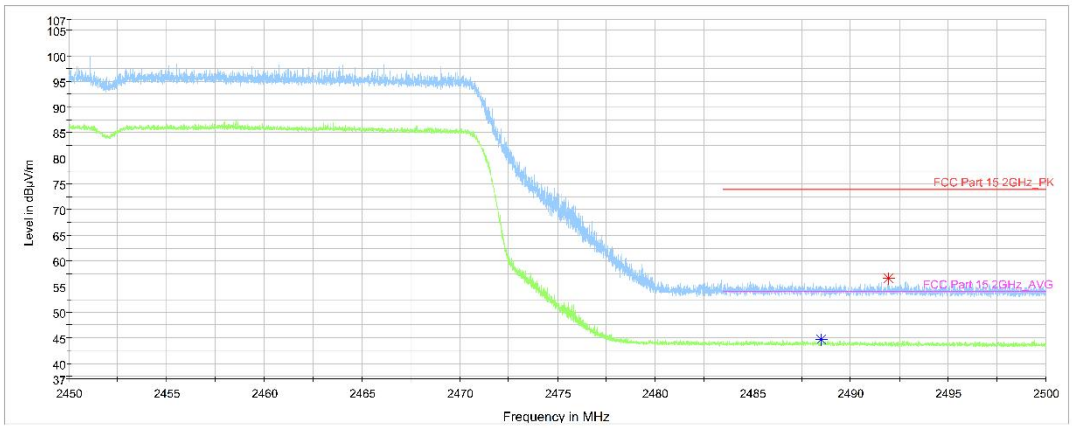

Fig.A.7.2.16 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, MIMO,2.45 GHz - 2.50GHz

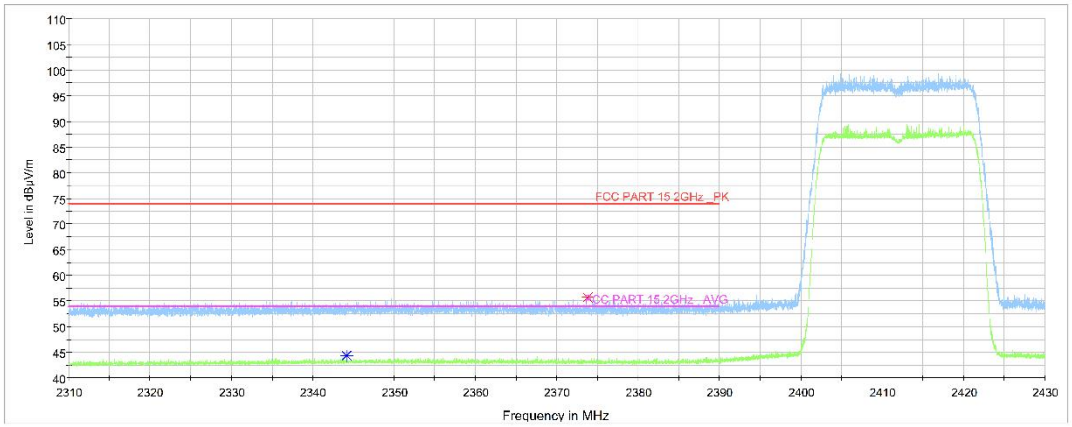

Fig.A.7.2.17 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT20, ch1, MIMO,2.31 GHz - 2.43GHz

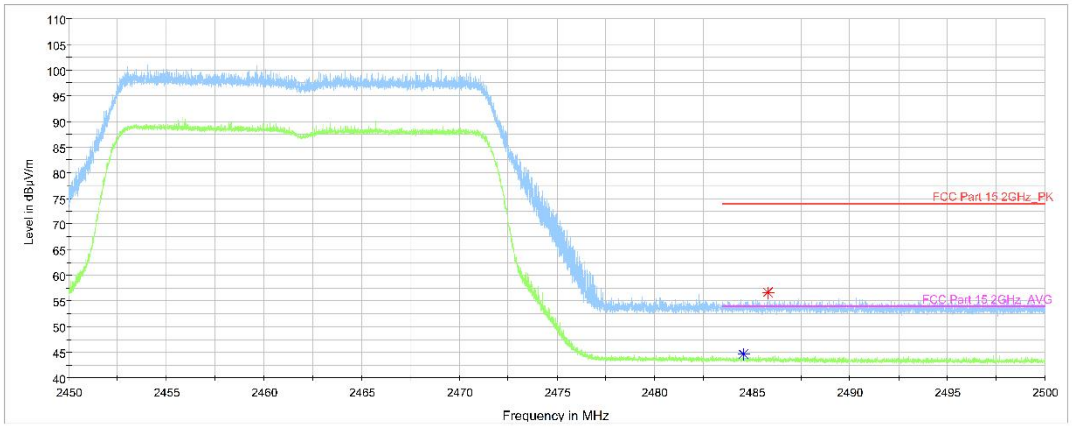

Fig.A.7.2.18 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT20, ch11, MIMO,2.45 GHz - 2.50GHz

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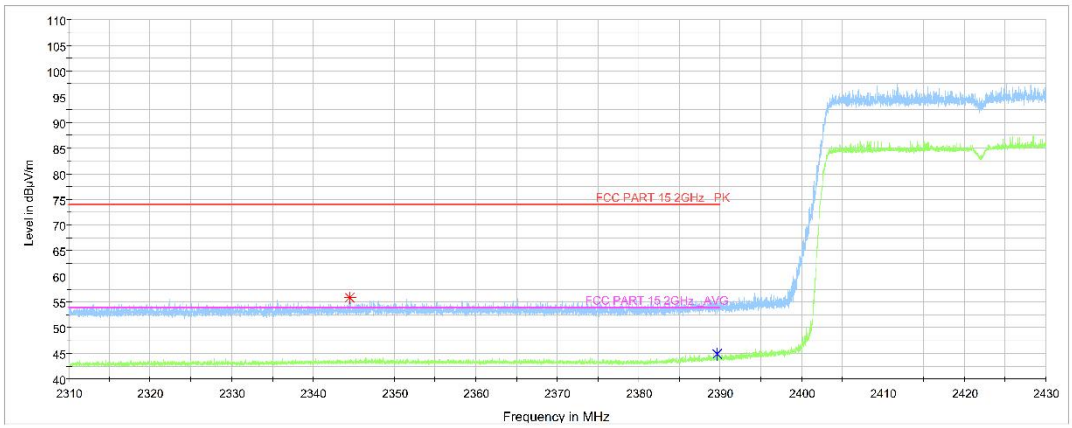

Fig.A.7.2.19 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT40, ch3, MIMO,2.31 GHz - 2.43GHz

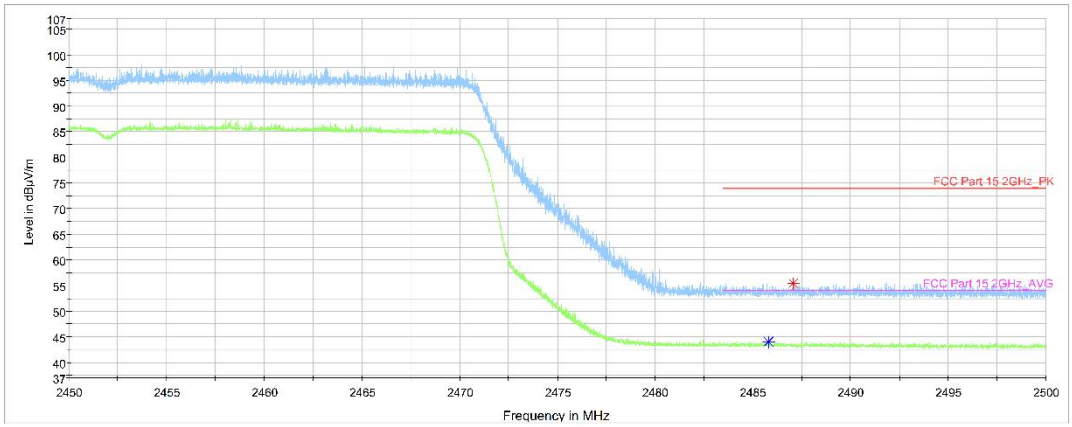

Fig.A.7.2.20 Transmitter Spurious Emission - Radiated (Power): 802.11bex-HT40, ch9, MIMO,2.45 GHz - 2.50GHz

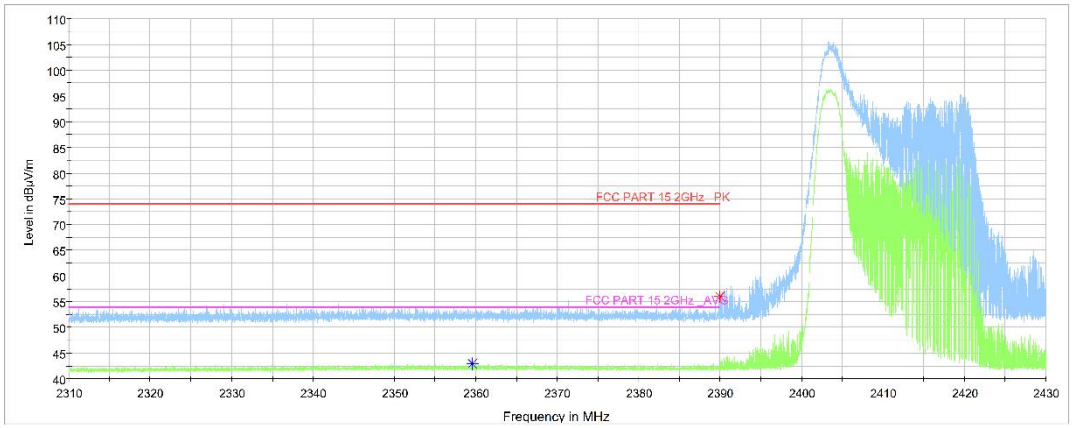

Fig.A.7.2.21 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch1, MIMO, Partial RU, 2.31 GHz - 2.43GHz

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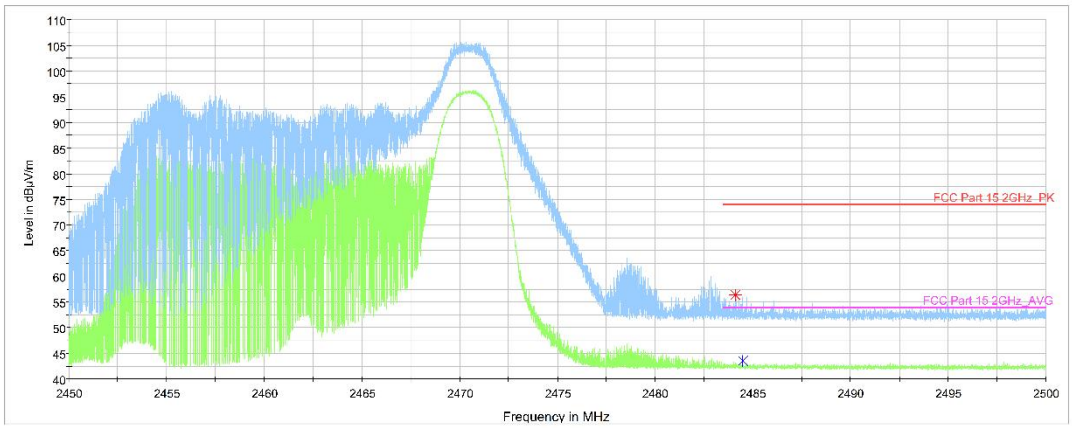

Fig.A.7.2.22 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT20, ch11, MIMO, Partial RU,2.45 GHz - 2.50GHz

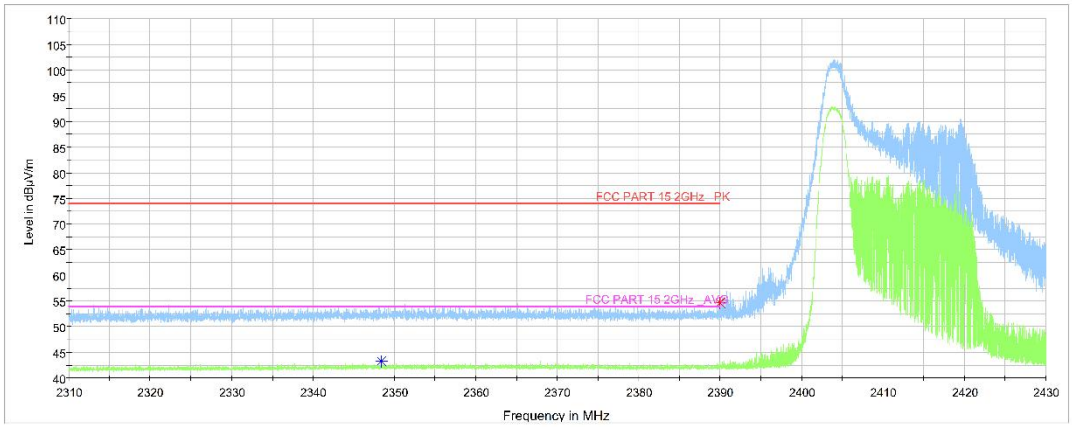

Fig.A.7.2.23 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch3, MIMO, Partial RU,2.31 GHz - 2.43GHz

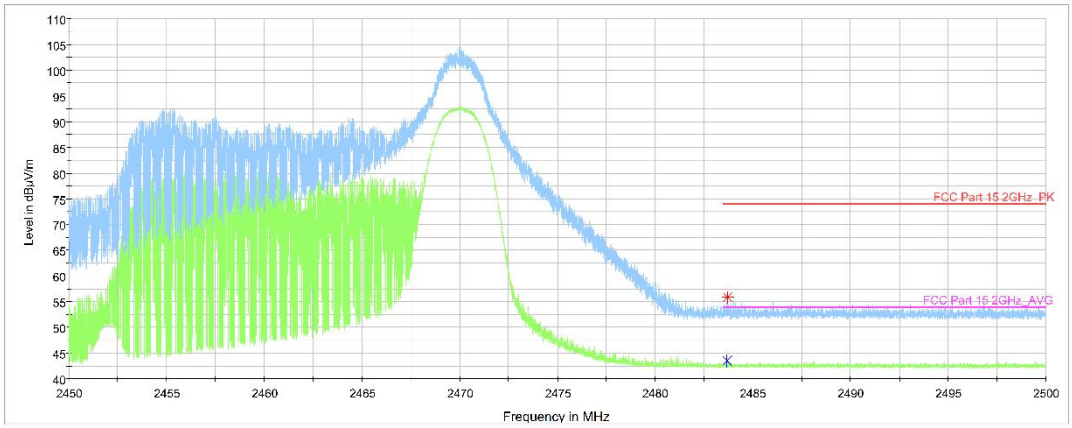

Fig.A.7.2.24 Transmitter Spurious Emission - Radiated (Power): 802.11ax-HT40, ch9, MIMO, Partial RU,2.45 GHz - 2.50GHz

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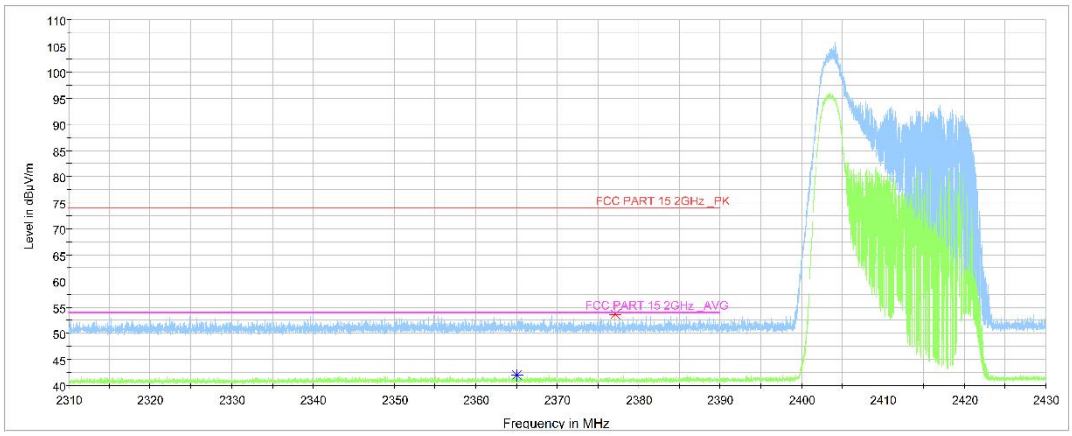

Fig.A.7.2.25 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT20, ch1, MIMO, Partial RU,2.31 GHz - 2.43GHz

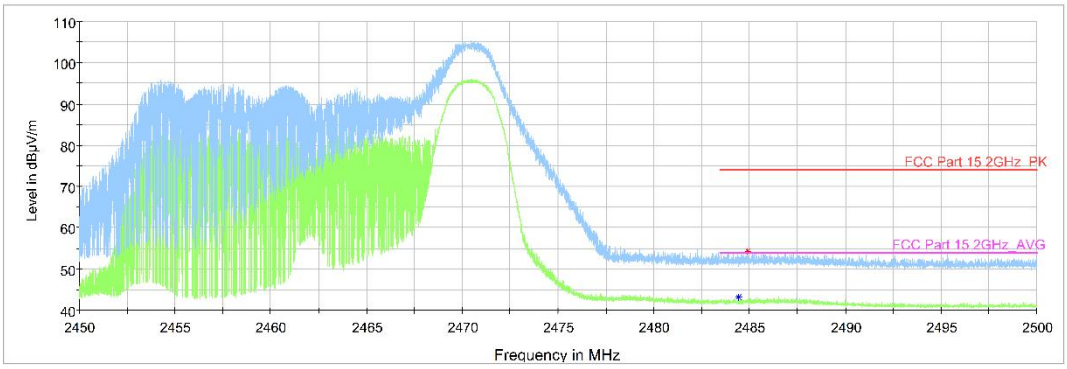

Fig.A.7.2.26 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT20, ch11, MIMO, Partial RU,2.45 GHz - 2.50GHz

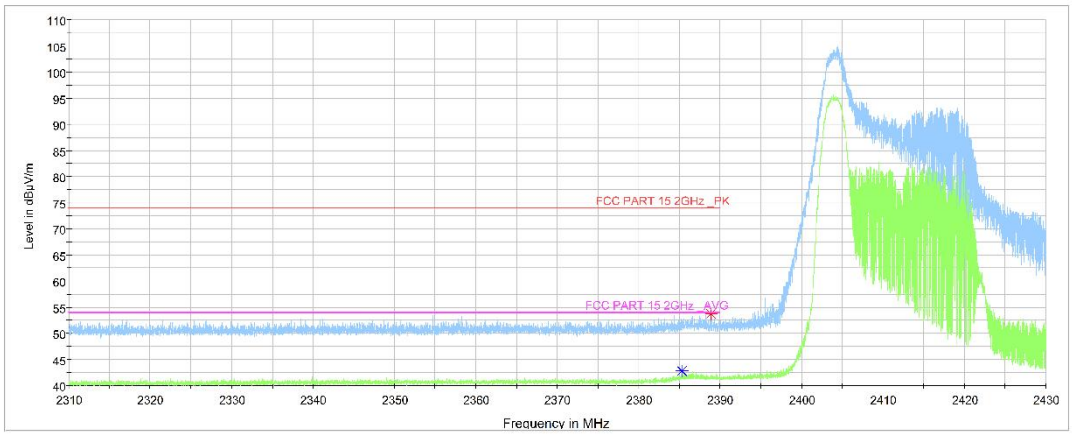

Fig.A.7.2.27 Transmitter Spurious Emission - Radiated (Power): 802.11be-HT40, ch3, MIMO, Partial RU,2.31 GHz - 2.43GHz

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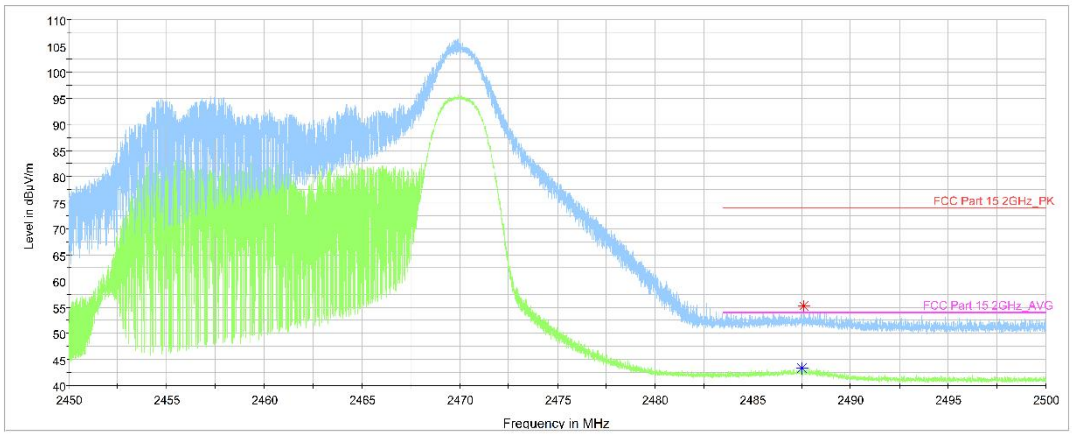

Fig.A.7.2.28 Transmitter Spurious Emission - Radiated (Power): 802.11bex-HT40, ch9, MIMO, Partial RU,2.45 GHz - 2.50GHz

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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.

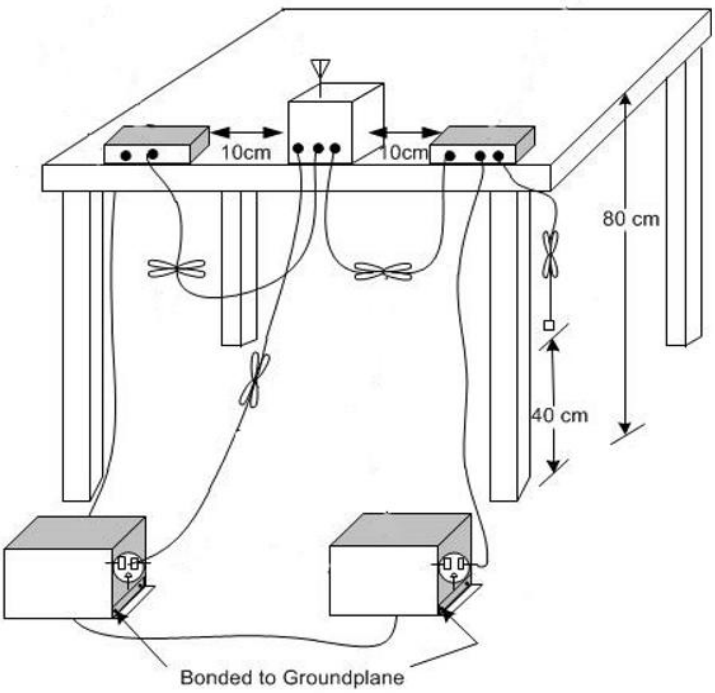
The measurement bandwidth is:

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

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Test setup



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Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	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:

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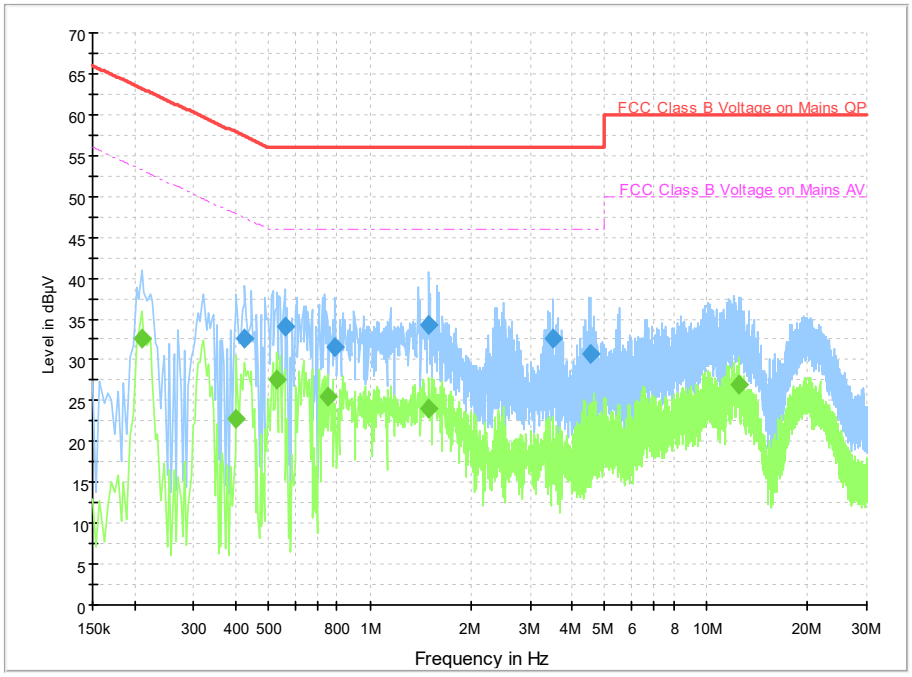

Fig.A.8.1 AC Powerline Conducted Emission-802.11b

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 (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.426000	32.6	2000.0	9.000	On	N	19.9	24.8	57.3	
0.558000	34.1	2000.0	9.000	On	L1	20.0	21.9	56.0	
0.790000	31.5	2000.0	9.000	On	L1	19.9	24.5	56.0	
1.502000	34.2	2000.0	9.000	On	N	19.7	21.8	56.0	
3.498000	32.7	2000.0	9.000	On	N	19.6	23.3	56.0	
4.514000	30.7	2000.0	9.000	On	L1	19.8	25.3	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.210000	32.6	2000.0	9.000	On	L1	19.8	20.6	53.2	
0.402000	22.8	2000.0	9.000	On	L1	20.0	25.0	47.8	
0.526000	27.6	2000.0	9.000	On	N	19.9	18.4	46.0	
0.750000	25.4	2000.0	9.000	On	L1	20.0	20.6	46.0	
1.502000	24.0	2000.0	9.000	On	N	19.7	22.0	46.0	
12.530000	26.9	2000.0	9.000	On	N	19.7	23.1	50.0	

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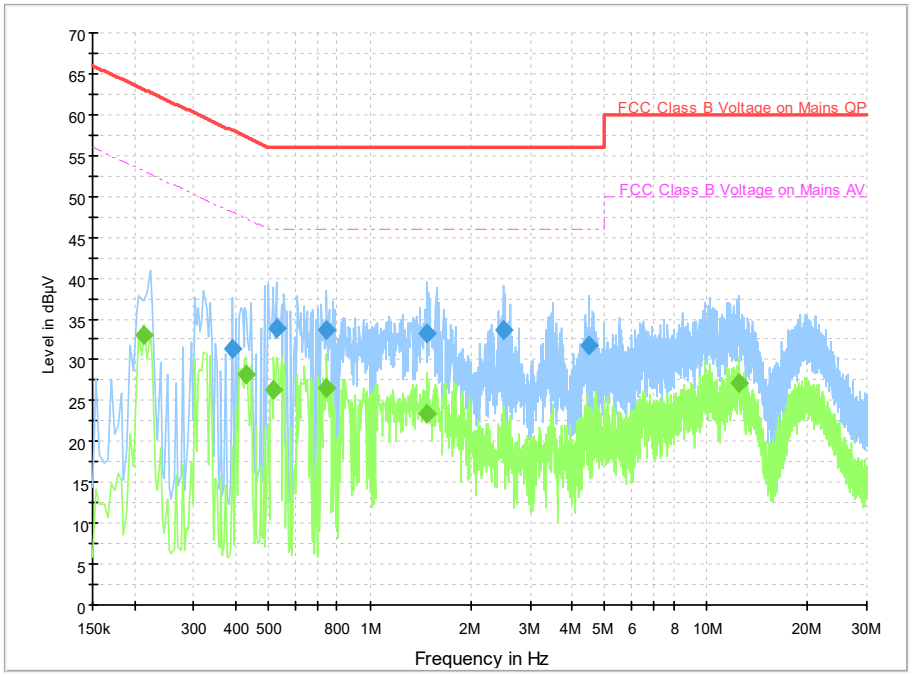

Fig.A.8.2 AC Powerline Conducted Emission-Idle

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 (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.390000	31.3	2000.0	9.000	On	L1	19.9	26.7	58.1	
0.526000	33.8	2000.0	9.000	On	L1	20.0	22.2	56.0	
0.746000	33.7	2000.0	9.000	On	L1	20.0	22.3	56.0	
1.482000	33.2	2000.0	9.000	On	N	19.7	22.8	56.0	
2.502000	33.5	2000.0	9.000	On	N	19.6	22.5	56.0	
4.498000	31.8	2000.0	9.000	On	L1	19.8	24.2	56.0	

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)	Comment
0.214000	33.0	2000.0	9.000	On	N	19.8	20.1	53.0	
0.430000	28.3	2000.0	9.000	On	L1	20.0	19.0	47.3	
0.518000	26.4	2000.0	9.000	On	N	19.9	19.6	46.0	
0.746000	26.4	2000.0	9.000	On	L1	20.0	19.6	46.0	
1.482000	23.5	2000.0	9.000	On	N	19.7	22.5	46.0	
12.490000	27.2	2000.0	9.000	On	N	19.7	22.8	50.0	

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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 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*****

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