

12. AC Power Line Conducted Emission Test

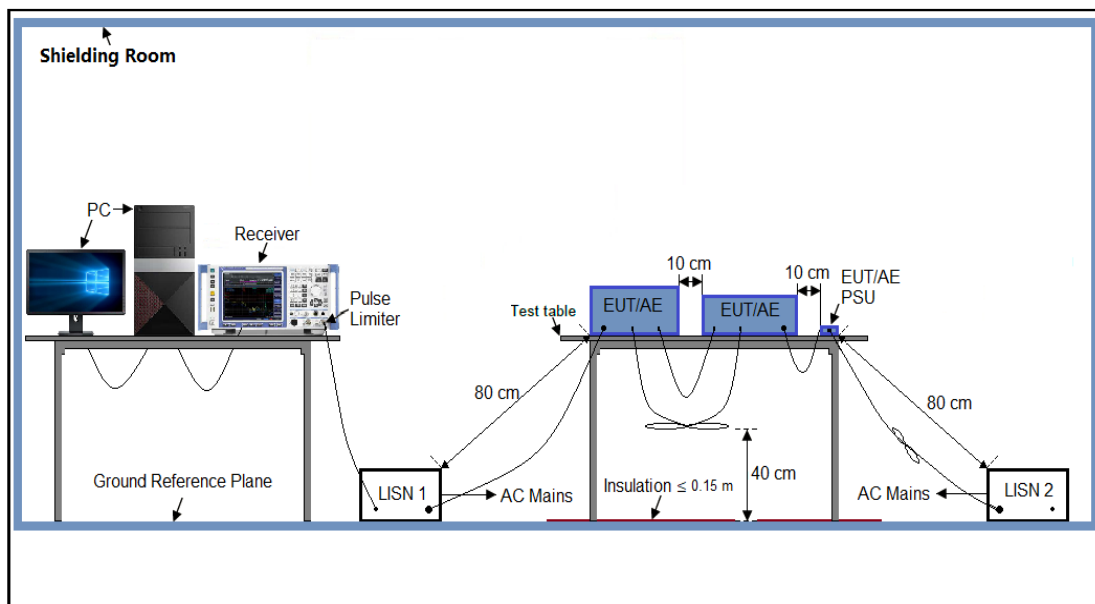
12.1 Measurement Limit

Frequency	Maximum RF Line Voltage	
	Q.P. (dB μ V)	Average (dB μ V)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

12.2 Measurement Setup (Block Diagram of Configuration)



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12.3 Preliminary Procedure of Line Conducted Emission Test

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. All support equipment received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC 5V power from adapter which received AC120V/60Hz power from a LISN.
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4 Final Procedure of Line Conducted Emission Test

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less – 2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

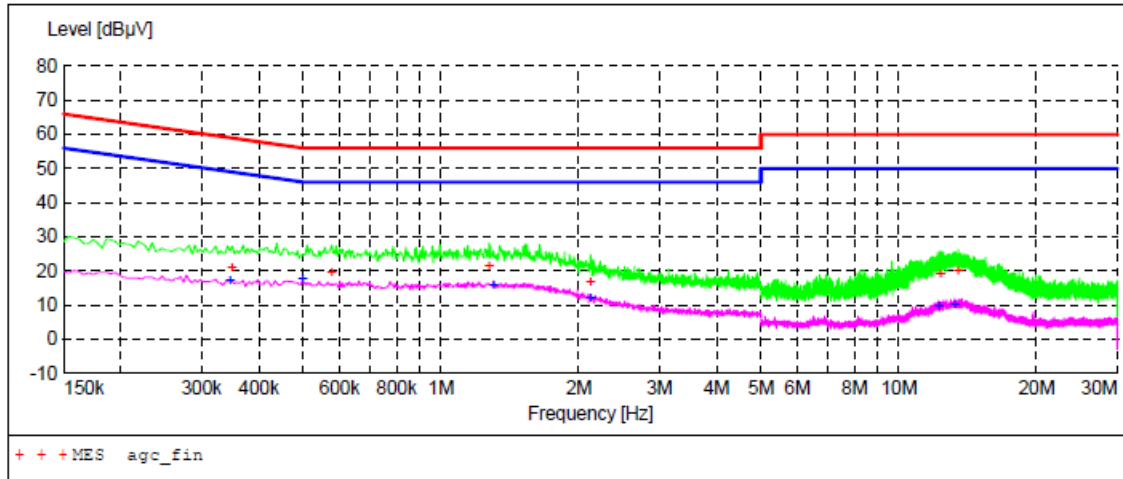
12.5 Measurement Results

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AC Power Line Conducted Emission Test

Test Mode	Mode 1	LISN Line	Hot Side
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MEASUREMENT RESULT: "agc_fin"

2024/8/30 23:28

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.350000	21.00	6.1	59	38.0	QP	L1
0.578000	19.60	6.2	56	36.4	QP	L1
1.274000	21.10	6.2	56	34.9	QP	L1
2.122000	16.60	6.2	56	39.4	QP	L1
12.342000	19.00	6.8	60	41.0	QP	L1
13.498000	19.90	6.8	60	40.1	QP	L1

MEASUREMENT RESULT: "agc_fin2"

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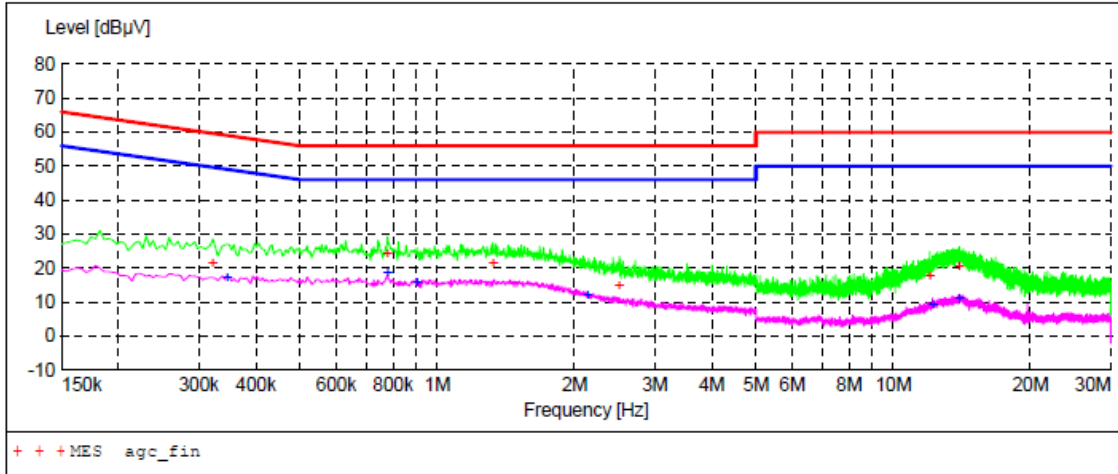
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.346000	16.90	6.1	49	32.2	AV	L1
0.498000	17.50	6.1	46	28.5	AV	L1
1.302000	15.80	6.2	46	30.2	AV	L1
2.122000	11.70	6.2	46	34.3	AV	L1
12.218000	9.40	6.8	50	40.6	AV	L1
13.234000	10.00	6.8	50	40.0	AV	L1

RESULT: Pass

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AC Power Line Conducted Emission Test

Test Mode	Mode 1	LISN Line	Neutral Side
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MEASUREMENT RESULT: "agc_fin"

2024/8/30 23:25

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.322000	21.20	6.1	60	38.5	QP	N
0.778000	24.20	6.2	56	31.8	QP	N
1.326000	21.20	6.2	56	34.8	QP	N
2.510000	14.90	6.3	56	41.1	QP	N
12.042000	17.30	6.8	60	42.7	QP	N
13.966000	20.10	6.8	60	39.9	QP	N

MEASUREMENT RESULT: "agc_fin2"

2024/8/30 23:25

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.346000	16.80	6.1	49	32.3	AV	N
0.778000	18.60	6.2	46	27.4	AV	N
0.902000	15.40	6.2	46	30.6	AV	N
2.134000	11.70	6.2	46	34.3	AV	N
12.202000	9.10	6.8	50	40.9	AV	N
13.958000	10.80	6.8	50	39.2	AV	N

RESULT: PASS

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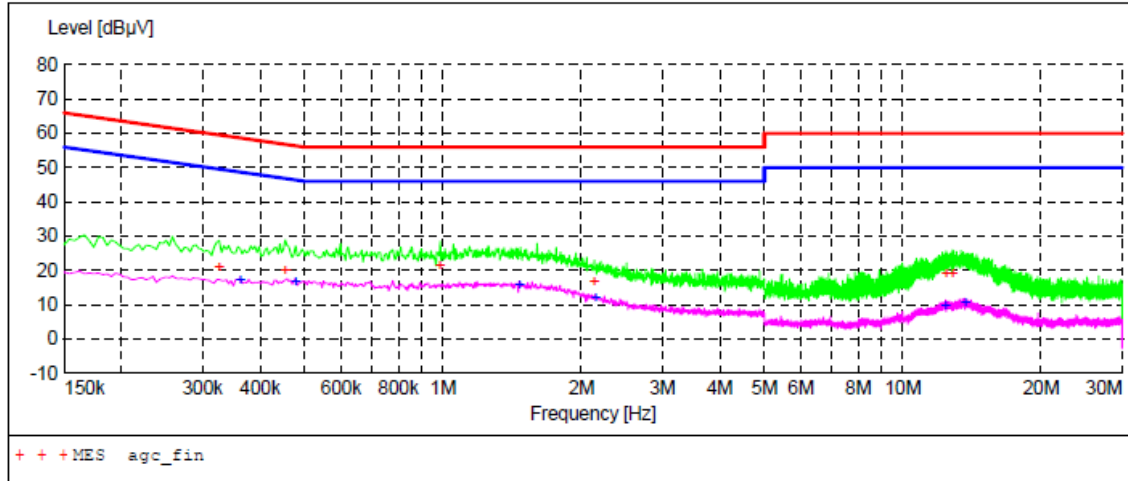
AC Power Line Conducted Emission Test

Test Mode

Mode 4

LISN Line

Hot Side

**MEASUREMENT RESULT: "agc_fin"**

2024/8/30 23:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.326000	20.90	6.1	60	38.7	QP	L1
0.454000	19.90	6.1	57	36.9	QP	L1
0.986000	21.10	6.2	56	34.9	QP	L1
2.134000	16.60	6.2	56	39.4	QP	L1
12.438000	19.00	6.8	60	41.0	QP	L1
12.838000	18.90	6.8	60	41.1	QP	L1

MEASUREMENT

2024/8/30 23:30

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.362000	16.80	6.1	49	31.9	AV	L1
0.478000	16.40	6.1	46	30.0	AV	L1
1.466000	15.80	6.2	46	30.2	AV	L1
2.146000	11.90	6.2	46	34.1	AV	L1
12.386000	9.60	6.8	50	40.4	AV	L1
13.654000	10.30	6.8	50	39.7	AV	L1

RESULT: Pass

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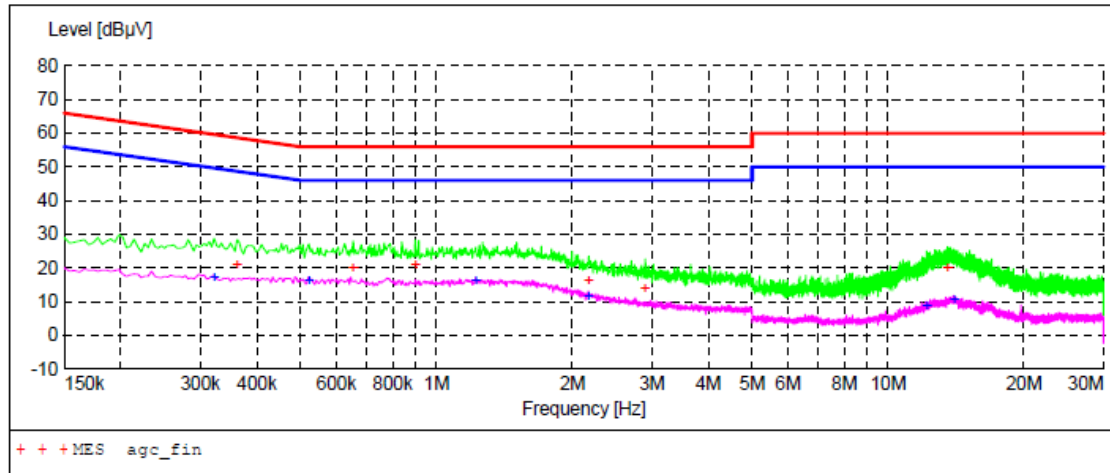
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AC Power Line Conducted Emission Test

Test Mode	Mode 4	LISN Line	Neutral Side
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MEASUREMENT RESULT: "agc_fin"

2024/8/30 23:34

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.362000	20.60	6.1	59	38.1	QP	N
0.654000	19.70	6.2	56	36.3	QP	N
0.898000	20.60	6.2	56	35.4	QP	N
2.174000	16.30	6.3	56	39.7	QP	N
2.902000	13.70	6.3	56	42.3	QP	N
13.554000	19.80	6.8	60	40.2	QP	N

MEASUREMENT RESULT: "agc_fin2"

2024/8/30 23:34

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.322000	17.10	6.1	50	32.6	AV	N
0.522000	16.20	6.2	46	29.8	AV	N
1.222000	15.90	6.2	46	30.1	AV	N
2.170000	11.60	6.3	46	34.4	AV	N
12.158000	8.60	6.8	50	41.4	AV	N
13.986000	10.40	6.8	50	39.6	AV	N

RESULT: PASS

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC00749240804AP01

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC00749240804AP02

-----End of Report-----

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