

12. AC Power Line Conducted Emission

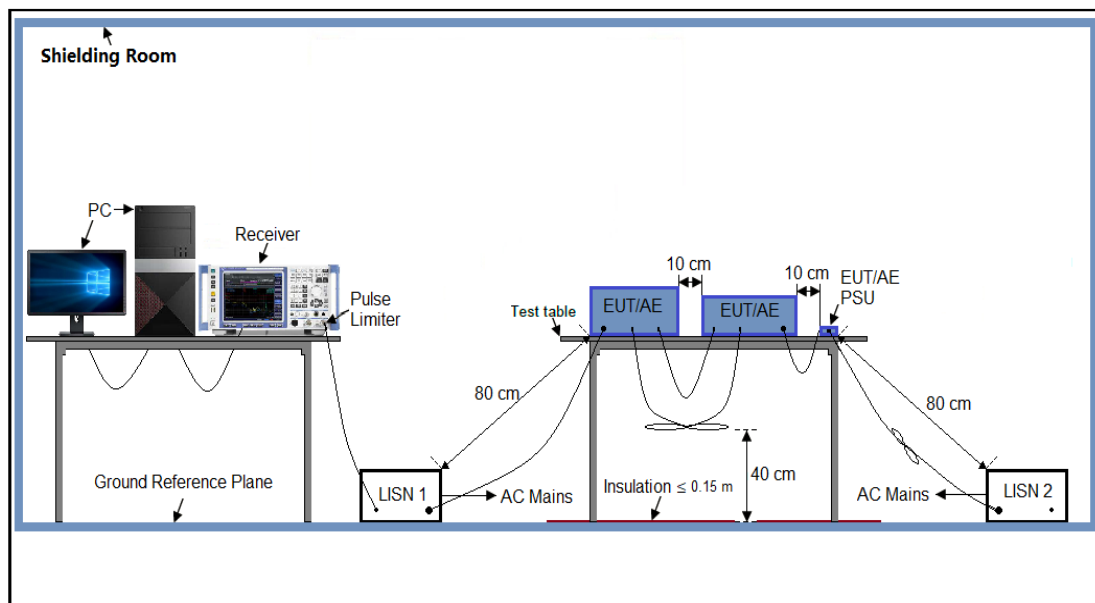
12.1 Measurement Limits

Frequency	Maximum RF Line Voltage	
	Q.P (dBμV)	Average (dBμV)
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 Block Diagram of Line Conducted Emission Test



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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 12V 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 was reported on the Summary Data page.

12.5 Test Result of Line Conducted Emission Test

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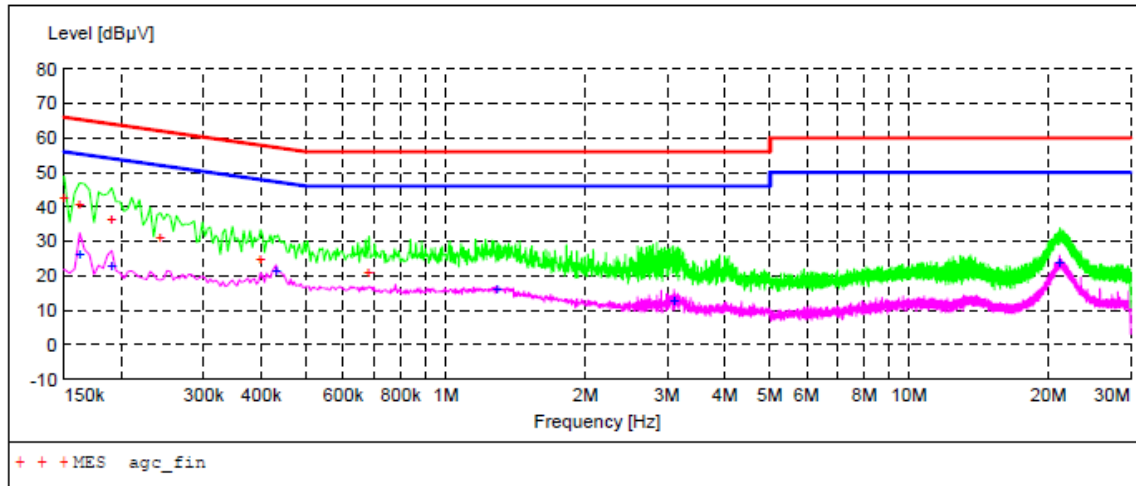
AC Power Line Conducted Emission Test

Test Mode

Mode 1

LISN Line

Hot Side

**MEASUREMENT RESULT: "agc_fin"**

2024/11/25 19:47

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.150000	42.60	6.1	66	23.4	QP	L1
0.162000	40.80	6.1	65	24.6	QP	L1
0.190000	36.30	6.1	64	27.7	QP	L1
0.242000	31.10	6.1	62	30.9	QP	L1
0.398000	24.80	6.1	58	33.1	QP	L1
0.682000	21.10	6.2	56	34.9	QP	L1

MEASUREMENT RESULT: "agc_fin2"

2024/11/25 19:47

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.162000	26.30	6.1	55	29.1	AV	L1
0.190000	22.80	6.1	54	31.2	AV	L1
0.430000	21.30	6.1	47	26.0	AV	L1
1.290000	16.10	6.2	46	29.9	AV	L1
3.106000	13.00	6.3	46	33.0	AV	L1
21.106000	24.00	7.3	50	26.0	AV	L1

RESULT: Pass

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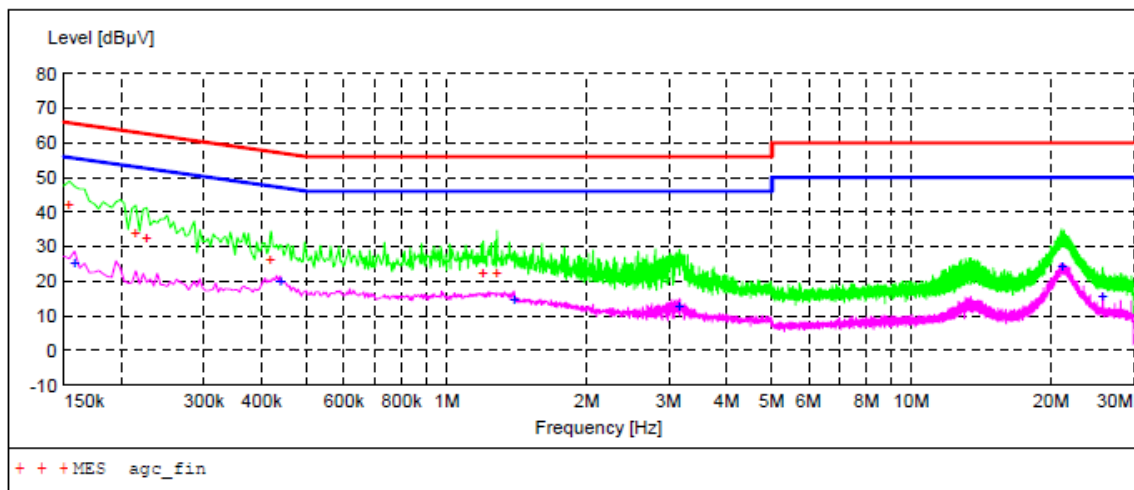
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AC Power Line Conducted Emission Test

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

2024/11/25 19:44

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.154000	42.20	6.1	66	23.6	QP	N
0.214000	33.90	6.1	63	29.1	QP	N
0.226000	32.60	6.1	63	30.0	QP	N
0.418000	26.40	6.1	58	31.1	QP	N
1.198000	22.50	6.2	56	33.5	QP	N
1.282000	22.70	6.2	56	33.3	QP	N

MEASUREMENT RESULT: "agc_fin2"

2024/11/25 19:44

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.158000	25.60	6.1	56	30.0	AV	N
0.438000	20.20	6.1	47	26.9	AV	N
1.394000	14.90	6.2	46	31.1	AV	N
3.162000	12.70	6.3	46	33.3	AV	N
21.106000	24.30	7.3	50	25.7	AV	N
25.798000	15.80	8.0	50	34.2	AV	N

RESULT: Pass

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC16740241101AP02

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC16740241101AP03

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

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