

12. AC Power Line Conducted Emission Test

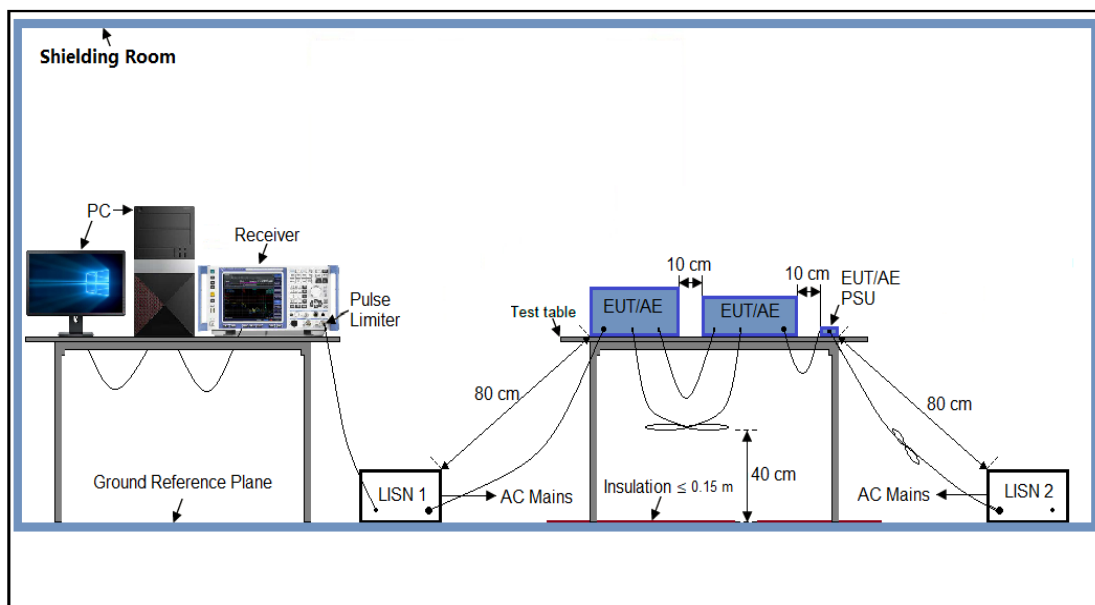
12.1 Measurement Limit

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 Measurement Setup (Block Diagram of Configuration)



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12.3 Preliminary Procedure of Line Conducted Emission Test

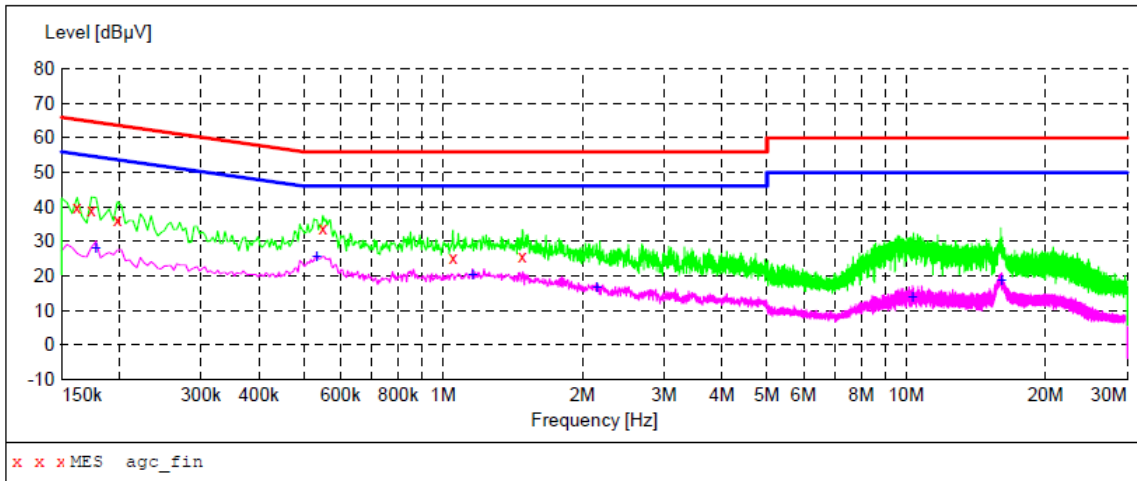
1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground 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 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).
7. 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.
8. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
9. During the above scans, the emissions were maximized by cable manipulation.
10. The test mode(s) were scanned during the preliminary test.
11. 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.
3. 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.
4. The test data of the worst case condition(s) was reported on the Summary Data page.
5. A conducted emission is calculated by the following equation:
 - Measurement Level (dB μ V) = Receiver reading (dB μ V) + Transd (dB)
 - Transd (dB) = AMN Factor(dB)+Cable Loss(dB)+Attenuation(dB)
 - Margin = Limit-Level

12.5 Measurement Result

AC Power Line Conducted Emission Test			
Test Mode	Mode 1	LISN Line	Hot Side
Prototype types	1#	Verdict	Pass



MEASUREMENT RESULT: "agc_fin"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.162000	40.00	9.9	65	25.4	QP	L1
0.174000	39.20	9.9	65	25.6	QP	L1
0.198000	36.10	9.9	64	27.6	QP	L1
0.550000	33.70	9.9	56	22.3	QP	L1
1.050000	25.10	9.9	56	30.9	QP	L1
1.482000	25.50	9.9	56	30.5	QP	L1

MEASUREMENT RESULT: "agc_fin2"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.178000	27.90	9.9	55	26.7	AV	L1
0.534000	25.50	9.9	46	20.5	AV	L1
1.158000	20.30	9.9	46	25.7	AV	L1
2.146000	16.80	9.9	46	29.2	AV	L1
10.318000	14.00	10.2	50	36.0	AV	L1
16.058000	18.80	10.6	50	31.2	AV	L1

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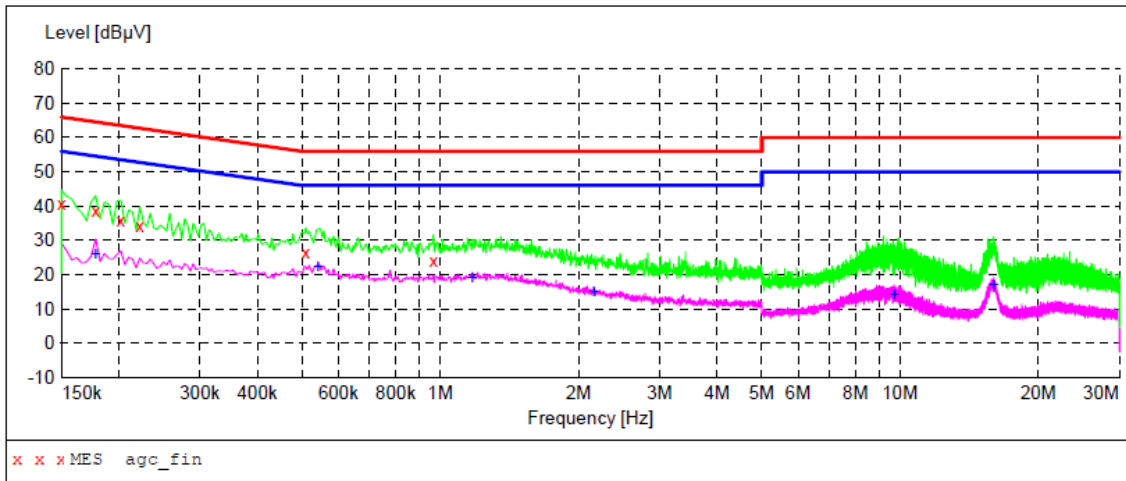
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AC Power Line Conducted Emission Test

Test Mode	Mode 1	LISN Line	Neutral Side
Prototype types	1#	Verdict	Pass



MEASUREMENT RESULT: "agc_fin"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.150000	40.60	9.9	66	25.4	QP	N
0.178000	38.80	9.9	65	25.8	QP	N
0.202000	35.80	9.9	64	27.7	QP	N
0.222000	34.30	9.9	63	28.4	QP	N
0.510000	26.50	9.9	56	29.5	QP	N
0.966000	24.20	9.9	56	31.8	QP	N

MEASUREMENT RESULT: "agc_fin2"

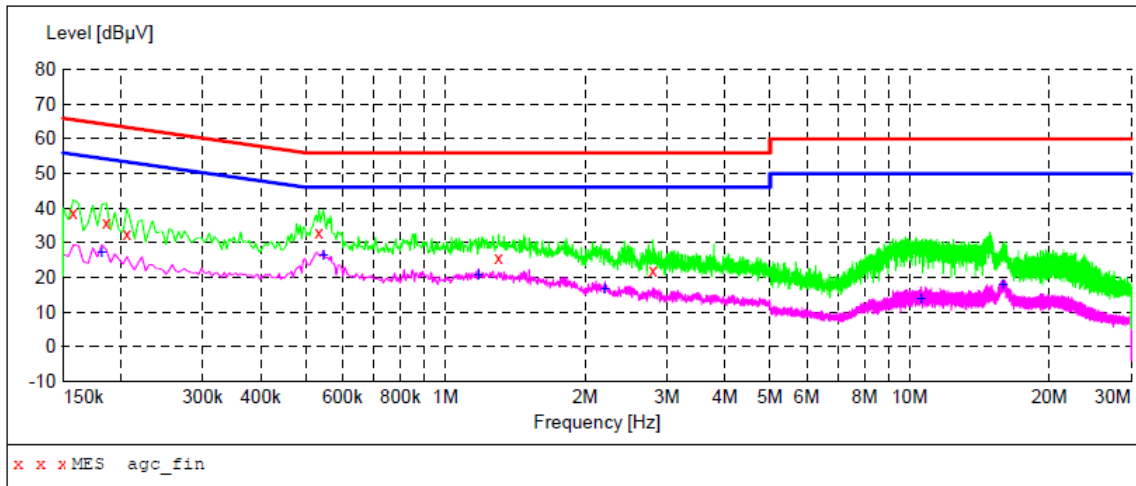
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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.178000	26.00	9.9	55	28.6	AV	N
0.542000	22.50	9.9	46	23.5	AV	N
1.174000	19.30	9.9	46	26.7	AV	N
2.158000	15.00	9.9	46	31.0	AV	N
9.710000	14.30	10.2	50	35.7	AV	N
15.982000	17.20	10.6	50	32.8	AV	N

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AC Power Line Conducted Emission Test

Test Mode	Mode 1	LISN Line	Hot Side
Prototype types	2#	Verdict	Pass



MEASUREMENT RESULT: "agc_fin"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.158000	38.80	9.9	66	26.8	QP	L1
0.186000	35.90	9.9	64	28.3	QP	L1
0.206000	32.60	9.9	63	30.8	QP	L1
0.534000	33.20	9.9	56	22.8	QP	L1
1.302000	25.50	9.9	56	30.5	QP	L1
2.798000	21.90	9.9	56	34.1	QP	L1

MEASUREMENT RESULT: "agc_fin2"

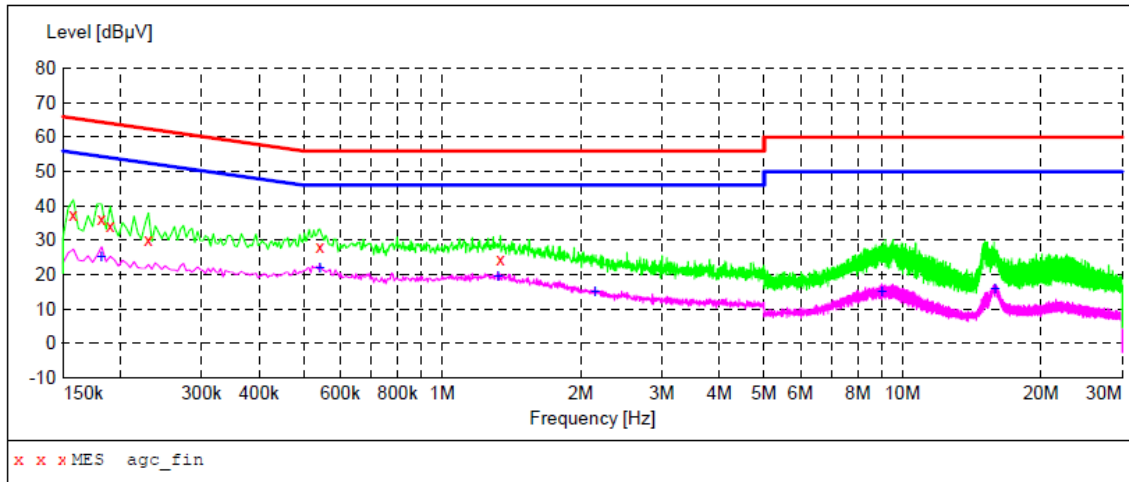
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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.182000	27.20	9.9	54	27.2	AV	L1
0.546000	26.50	9.9	46	19.5	AV	L1
1.178000	20.80	9.9	46	25.2	AV	L1
2.206000	16.80	9.9	46	29.2	AV	L1
10.574000	14.10	10.3	50	35.9	AV	L1
15.862000	17.90	10.6	50	32.1	AV	L1

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AC Power Line Conducted Emission Test

Test Mode	Mode 1	LISN Line	Neutral Side
Prototype types	2#	Verdict	Pass



MEASUREMENT RESULT: "agc_fin"

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Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.158000	37.60	9.9	66	28.0	QP	N
0.182000	36.40	9.9	64	28.0	QP	N
0.190000	34.30	9.9	64	29.7	QP	N
0.230000	30.00	9.9	62	32.4	QP	N
0.542000	28.10	9.9	56	27.9	QP	N
1.338000	24.50	9.9	56	31.5	QP	N

MEASUREMENT RESULT: "agc_fin2"

2025/6/24 22:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.182000	25.20	9.9	54	29.2	AV	N
0.542000	21.90	9.9	46	24.1	AV	N
1.322000	19.40	9.9	46	26.6	AV	N
2.146000	15.00	9.9	46	31.0	AV	N
9.006000	15.10	10.2	50	34.9	AV	N
15.862000	16.00	10.6	50	34.0	AV	N

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC05877250601AP02

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC05877250601AP03

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

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