

12. LINE CONDUCTED EMISSION TEST

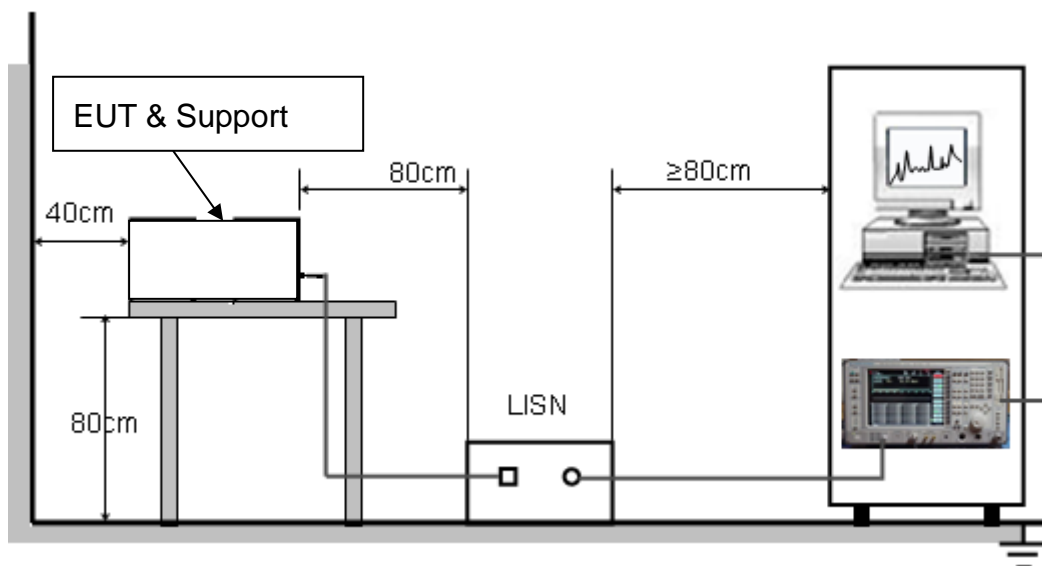
12.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



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Attestation of Global Compliance(Shenzhen)Co., Ltd

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Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: <http://www.agccert.com/>

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 24V 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.

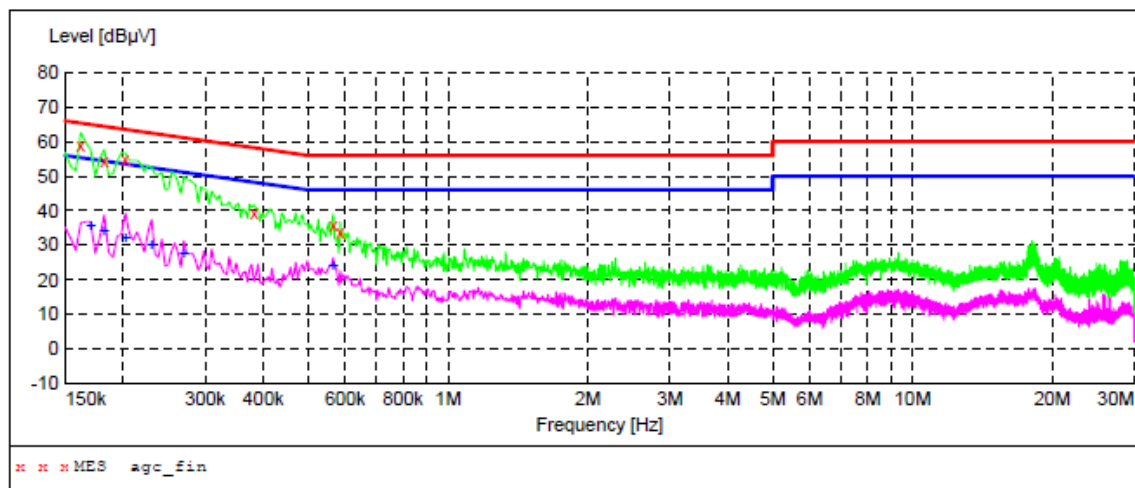
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

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

Line Conducted Emission Test Line 1-L



MEASUREMENT RESULT: "agc_fin"

2022/9/21 21:53

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.162000	58.70	6.8	65	6.7	QP	L1
0.182000	54.20	6.7	64	10.2	QP	L1
0.202000	55.00	6.5	64	8.5	QP	L1
0.382000	39.40	5.7	58	18.8	QP	L1
0.566000	35.70	5.4	56	20.3	QP	L1
0.586000	33.60	5.4	56	22.4	QP	L1

MEASUREMENT RESULT: "agc_fin2"

2022/9/21 21:52

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.170000	35.70	6.8	55	19.3	AV	L1
0.182000	34.20	6.7	54	20.2	AV	L1
0.202000	32.20	6.5	54	21.3	AV	L1
0.230000	30.30	6.4	52	22.1	AV	L1
0.270000	27.60	6.2	51	23.5	AV	L1
0.566000	24.20	5.4	46	21.8	AV	L1

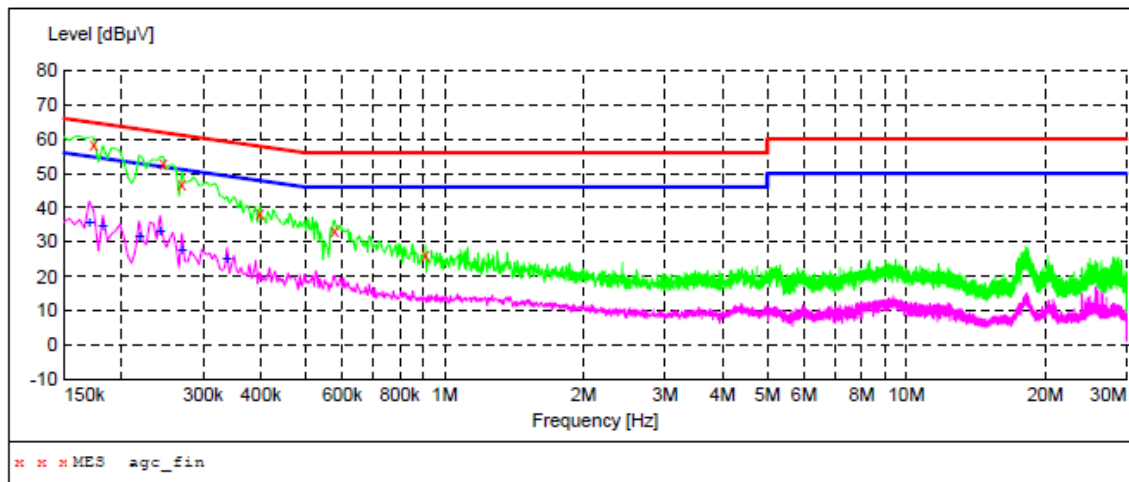
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Line Conducted Emission Test Line 2-N



MEASUREMENT RESULT: "agc_fin"

2022/9/21 21:49

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.174000	58.40	6.7	65	6.4	QP	N
0.246000	53.10	6.3	62	8.8	QP	N
0.270000	47.00	6.2	61	14.1	QP	N
0.398000	38.20	5.7	58	19.7	QP	N
0.578000	33.30	5.4	56	22.7	QP	N
0.910000	26.30	5.4	56	29.7	QP	N

MEASUREMENT RESULT: "agc_fin2"

2022/9/21 21:49

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.170000	35.60	6.8	55	19.4	AV	N
0.182000	34.80	6.7	54	19.6	AV	N
0.218000	31.70	6.4	53	21.2	AV	N
0.242000	33.10	6.3	52	18.9	AV	N
0.270000	28.00	6.2	51	23.1	AV	N
0.338000	25.40	5.9	49	23.9	AV	N

RESULT: PASS

Note: All test modes had been pre-tested. The 802.11b at low channel mode is the worst case and recorded in the report.

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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC11034220802AP04

APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC11034220802AP05

-----END OF REPORT-----

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