

Band Edge Emission Test Results for Restricted Bands

EUT Name	Smart Diagnostic System	Model Name	P400
Temperature	25.2°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	DC 7.2V

802.11b_TX CH01_2412 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2390.00	40.49	29.99	30.21	8.35	48.62	74	25.38	Peak	Horizontal
2	2390.00	32.43	29.99	30.21	8.35	40.56	54	13.44	AV	Horizontal
3	2390.00	37.66	29.99	30.21	8.35	45.79	74	28.21	Peak	Vertical
4	2390.00	28.52	29.99	30.21	8.35	36.65	54	17.35	AV	Vertical
802.11b_TX CH11_2462 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2483.50	42.69	30.25	30.25	8.5	51.19	74	22.81	Peak	Horizontal
2	2483.50	33.94	30.25	30.25	8.5	42.44	54	11.56	AV	Horizontal
3	2483.50	39.41	30.25	30.25	8.5	47.91	74	26.09	Peak	Vertical
4	2483.50	30.99	30.25	30.25	8.5	39.49	54	14.51	AV	Vertical

802.11g_TX CH01_2412 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2390.00	51.40	29.99	30.21	8.35	59.53	74	14.47	Peak	Horizontal
2	2390.00	38.88	29.99	30.21	8.35	47.01	54	6.99	AV	Horizontal
3	2390.00	49.11	29.99	30.21	8.35	57.24	74	16.76	Peak	Vertical
4	2390.00	36.66	29.99	30.21	8.35	44.79	54	9.21	AV	Vertical
802.11g_TX CH11_2462 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2483.50	47.29	30.25	30.25	8.5	55.79	74	18.21	Peak	Horizontal
2	2483.50	38.41	30.25	30.25	8.5	46.91	54	7.09	AV	Horizontal
3	2483.50	45.72	30.25	30.25	8.5	54.22	74	19.78	Peak	Vertical
4	2483.50	35.74	30.25	30.25	8.5	44.24	54	9.76	AV	Vertical

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802.11n-HT20_TX CH01_2412 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2390.00	50.16	29.99	30.21	8.35	58.29	74	15.71	Peak	Horizontal
2	2390.00	38.18	29.99	30.21	8.35	46.31	54	7.69	AV	Horizontal
3	2390.00	46.88	29.99	30.21	8.35	55.01	74	18.99	Peak	Vertical
4	2390.00	34.98	29.99	30.21	8.35	43.11	54	10.89	AV	Vertical

802.11n-HT20_TX CH11_2462 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2483.50	50.38	30.25	30.25	8.5	58.88	74	15.12	Peak	Horizontal
2	2483.50	37.78	30.25	30.25	8.5	46.28	54	7.72	AV	Horizontal
3	2483.50	45.29	30.25	30.25	8.5	53.79	74	20.21	Peak	Vertical
4	2483.50	34.23	30.25	30.25	8.5	42.73	54	11.27	AV	Vertical

802.11n-HT40_TX CH03_2422 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2390.00	50.98	29.99	30.21	8.35	59.11	74	14.89	Peak	Horizontal
2	2390.00	40.93	29.99	30.21	8.35	49.06	54	4.94	AV	Horizontal
3	2390.00	48.19	29.99	30.21	8.35	56.32	74	17.68	Peak	Vertical
4	2390.00	38.39	29.99	30.21	8.35	46.52	54	7.48	AV	Vertical

802.11n-HT40_TX CH09_2452 MHz										
Item (Mark)	Freq. MHz	Reading dBμV	Ant. Fac. dB/m	PRM Factor dB	Cable Loss dB	Level dBμV/m	Limit dBμV/m	Margin dB	Detector	Pol.
1	2483.50	49.67	30.25	30.25	8.5	58.17	74	15.83	Peak	Horizontal
2	2483.50	39.27	30.25	30.25	8.5	47.77	54	6.23	AV	Horizontal
3	2483.50	46.25	30.25	30.25	8.5	54.75	74	19.25	Peak	Vertical
4	2483.50	35.15	30.25	30.25	8.5	43.65	54	10.35	AV	Vertical

Remark:

1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.
2. The other emission levels were very low against the limit.
3. Margin = Limit - Emission Level.
4. The average measurement was not performed when the peak measured data under the limit of average detection.
5. Detector AV is setting spectrum/receiver. RBW=1MHz/VBW=3MHz/Sweep time=Auto/Detector=Average.

Result: Pass

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12. AC Power Line Conducted Emission

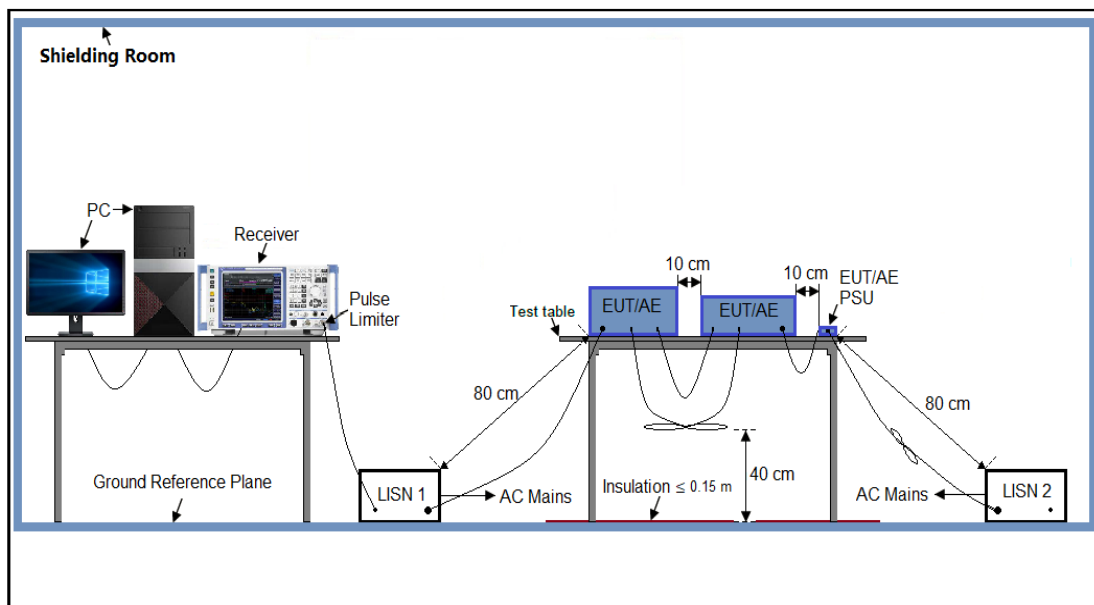
12.1 Measurement Limits

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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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 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.

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

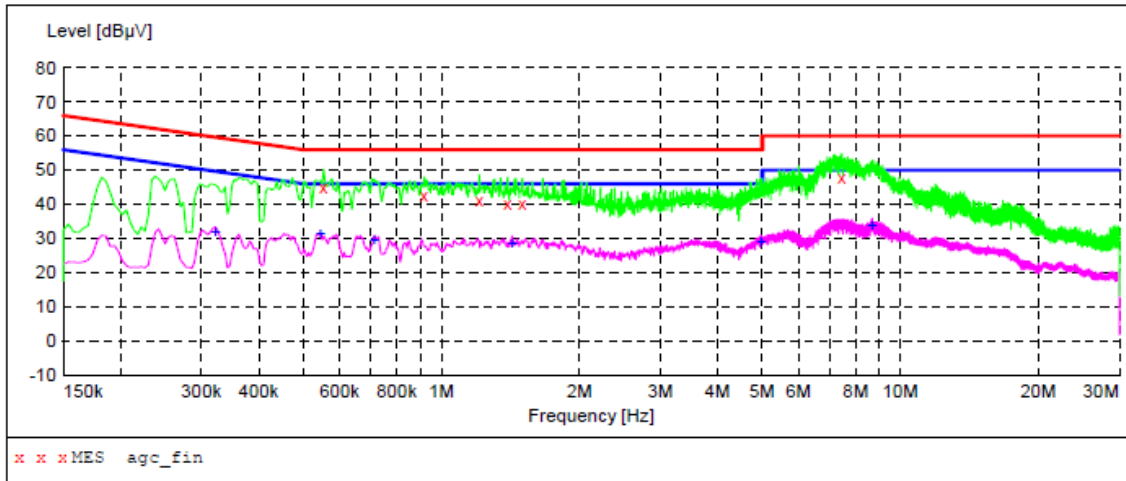
1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used 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.
4. A conducted emission is calculated by the following equation:
 - Measurement Level (dBμV) = Receiver reading (dBμV) + Transd (dB)
 - Transd (dB)= AMN Factor(dB)+Cable Loss(dB)+Attenuation(dB)
 - Margin= Limit-Level

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
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MEASUREMENT RESULT: "agc_fin"

2025/7/16 15:38

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.554000	45.00	10.3	56	11.0	QP	L1
0.918000	42.60	10.4	56	13.4	QP	L1
1.210000	40.90	10.4	56	15.1	QP	L1
1.394000	40.40	10.4	56	15.6	QP	L1
1.502000	40.40	10.4	56	15.6	QP	L1
7.454000	47.80	11.5	60	12.2	QP	L1

MEASUREMENT RESULT: "agc_fin2"

2025/7/16 15:38

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.322000	31.90	10.3	50	17.8	AV	L1
0.546000	31.40	10.3	46	14.6	AV	L1
0.714000	29.50	10.3	46	16.5	AV	L1
1.426000	28.70	10.4	46	17.3	AV	L1
4.970000	29.40	10.8	46	16.6	AV	L1
8.666000	33.80	11.9	50	16.2	AV	L1

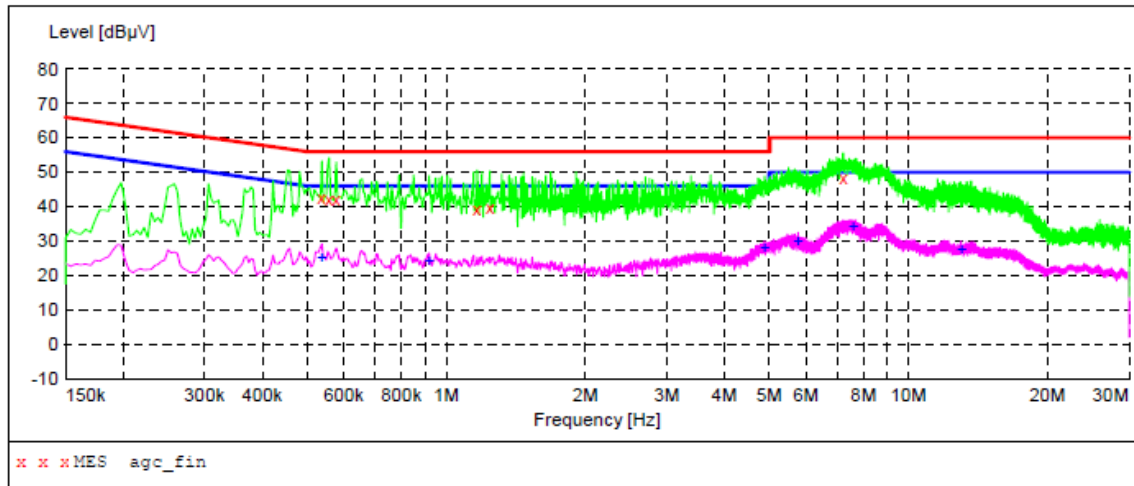
RESULT: Pass

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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"

2025/7/16 15:41

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.538000	42.70	10.3	56	13.3	QP	N
0.558000	42.10	10.3	56	13.9	QP	N
0.578000	42.30	10.3	56	13.7	QP	N
1.166000	39.20	10.4	56	16.8	QP	N
1.242000	39.90	10.4	56	16.1	QP	N
7.230000	48.30	11.4	60	11.7	QP	N

MEASUREMENT RESULT: "agc_fin2"

2025/7/16 15:41

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.538000	25.40	10.3	46	20.6	AV	N
0.918000	24.50	10.4	46	21.5	AV	N
4.882000	28.10	10.8	46	17.9	AV	N
5.766000	30.10	11.0	50	19.9	AV	N
7.586000	34.70	11.5	50	15.3	AV	N
12.994000	28.00	12.9	50	22.0	AV	N

RESULT: Pass

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Appendix I: Photographs of Test Setup

Refer to the Report No.: AGC16626250401AP02

Appendix II: Photographs of Test EUT

Refer to the Report No.: AGC16626250401AP03

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5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
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7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

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

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