

6015059.50v1.1

EMC Test report for Magnetic Core Drill

Models: MD300N, MR- 3035.1100, MAGPRO 35 Semi-Automatic, MB300 auto, HF-30A, MD300, SMD351L, MR- 3550.1100, MMD35, MAGPRO 35/1S ADJUST, SMD351H, MD0351, SMD352, MAGPRO 35/2S ADJUST, SMD502, ST50, R502, MMD50, MAGPRO 50/2S ADJUST, MB502E, 16082605, AC50, MD350N, MD-35Q, KW1500380, MB351, HF-35, 35PM, MD350, SMA300, SMA351L, SMA351H, SMA352, SMA502, 731-C, 742-C and 942-C

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DEKRA Testing and Certification (Shanghai) Ltd.

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DOCUMENT

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1 CONCLUSION

The report is issued to base on original test report Ref. No. 3120836.50 dated on 2012-04-05 including the following modifications:

- Update the standard.
- Alternative models' names added.

MD300N is same as MR- 3035.1100, MAGPRO 35 Semi-Automatic, MB300 auto, HF-30A.

MD300 is same as SMD351L, MR- 3550.1100M, MD35, MAGPRO 35/1S ADJUST.

SMD351H is same as MD0351. SMD352 is same as MAGPRO 35/2S ADJUST.

SMD502 is same as ST50, R502, MMD50, MAGPRO 50/2S ADJUST, MB502E, 16082605, AC50.

MD350N is same as MD-35Q, KW1500380, MB351, HF-35, 35PM.

After review, no test is considered necessary.

The tests described in this report do not result in the right to use any approval mark as conferred by DEKRA. As far as the tests were based on certain specifications, these are mentioned in the report.

The conclusion and results stated in this test report are based on a non-recurrent examination of sample provided by the applicant.

1.1 Model description

The apparatus as supplied for the test is a magnetic core drill, model MD300N intended for residential use. The EUT has electronic control circuit and earth connection.

According to the declaration from manufacturer, the models in this report are identical except the gear boxes of them and the position of grips.

MD300N and MD300 have a driving motor for auto feed; others have no driving motor.

731-C is same as SMA 352, except the model name.

742-C and 942-C are same as SMA502, except the model name.

The gear boxes of MD300N, MD300, MD350N and MD350 are the same.

The gear boxes of SMD351L, SMD351H, SMA351L and SMA351H are the same.

The gear boxes of SMD352, SMD502, SMA352 and SMA502 are the same.

Due to the similarity between them, model MD300N was selected for the full tests and the corresponding data is representative for other models as well.



Figure 1 model MD300N

1.2 Environment

The requirements and standards apply to equipment intended for use in:

✓	Residential (domestic) environment
✓	Commercial and light-industrial environment
	Industrial environment
	Medical environment

1.3 Classification

The standard EN 55014-2 is subdivided in four categories. For each category, the specific immunity requirements are formulated.

	Category 1	Apparatus containing no electronic control circuitry
✓	Category 2	Apparatus containing electronic control circuitry with no internal clock or oscillator frequency higher than 15 MHz.
	Category 3	Battery powered apparatus containing electronic control circuitry.
	Category 4	All other apparatus.

2 SUMMARY

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

2.1 Applied standards

Standard	Year	Title
EN 55014-1	2006	Emission – Electrical motor-operated and thermal appliances for household and similar purposes, electrical tools and similar electrical apparatus
A1	2009	
A2	2011	
EN 55014-2	2015	Immunity - Household appliances, electric tools and similar
EN 61000-3-2	2014	Limits for harmonic currents emissions
EN 61000-3-3	2013	Limitation of voltage fluctuations and flicker

2.2 Overview of results

Emission tests	Result
Mains conducted disturbance voltage	PASS
Radiated emission	PASS
Harmonic current emission	PASS
Limitation of voltage fluctuations (flicker)	PASS

Immunity tests	Result
Electrostatic Discharges (ESD)	PASS
Electrical fast transient (EFT)	PASS
Surge transients	PASS
Conducted RF disturbances	PASS
Power supply voltage interruptions & dips	PASS

3 GENERAL INFORMATION

3.1 Product Information

Equipment under test	Magnetic Core Drill
Trade mark	AGP
Tested Type	MD300N
Representative types	MR- 3035.1100, MAGPRO 35 Semi-Automatic, MB300 auto, HF-30A, MD300, SMD351L, MR- 3550.1100, MMD35, MAGPRO 35/1S ADJUST, SMD351H, MD0351, SMD352, MAGPRO 35/2S ADJUST, SMD502, ST50, R502, MMD50, MAGPRO 50/2S ADJUST, MB502E, 16082605, AC50, MD350N, MD-35Q, KW1500380, MB351, HF-35, 35PM, MD350, SMA300, SMA351L, SMA351H, SMA352, SMA502, 731-C, 742-C and 942-C
P rated	110-120 Vac or 220-240 Vac; 50-60 Hz; 1100 W; Class I

3.2 Customer Information

Applicant	LEE YEONG Industrial Co., Ltd.
Address	No.2, Kejia Road, Douliu City, Yunlin County, Taiwan

Manufacturer	LEE YEONG Industrial Co., Ltd.
Address	No.2, Kejia Road, Douliu City, Yunlin County, Taiwan

Factory	LEE YEONG Industrial Co., Ltd.
Address	No.2, Kejia Road, Douliu City, Yunlin County, Taiwan

3.3 Test data

Location	Global Certification Corp.
Address	No.146, Sec. 2, Xiangzhang Rd., Xizhi Dist., New Taipei City 221, Taiwan
Date	Sep. 2011
Supervised by	Jerremy Cai

3.4 Environmental conditions

Tests have been performed in a controlled laboratory environment, where the environmental conditions are maintained within the applicable ranges.

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

3.5 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: $U = 3.38$ dB

Disturbance Power Expanded Uncertainty: $U = 3.92$ dB

Harmonic Current Expanded Uncertainty: $U = 0.001$ mA

4 EMISSION TEST RESULTS

4.1 Mains conducted disturbance voltage

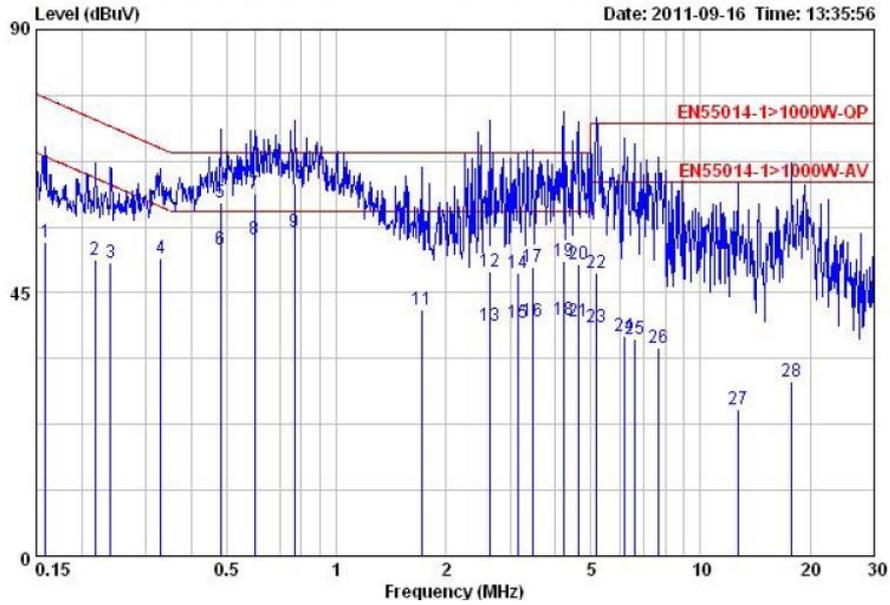
Standard	EN 55014-1 (Tools)					
Frequency [MHz]	QP [dB(μV)]			AV [dB(μV)]		
0,15 – 0,35	66	–	59 *)	59	–	49 *)
0,35 – 5	59			49		
5 – 30	64			54		

*) Limits decreasing linearly with the logarithm of the frequency

	Rated power below 700 W	Limits as above
	Rated power between 700 and 1000 W	Limits +4 dB
✓	Rated power above 1000 W	Limits +10 dB

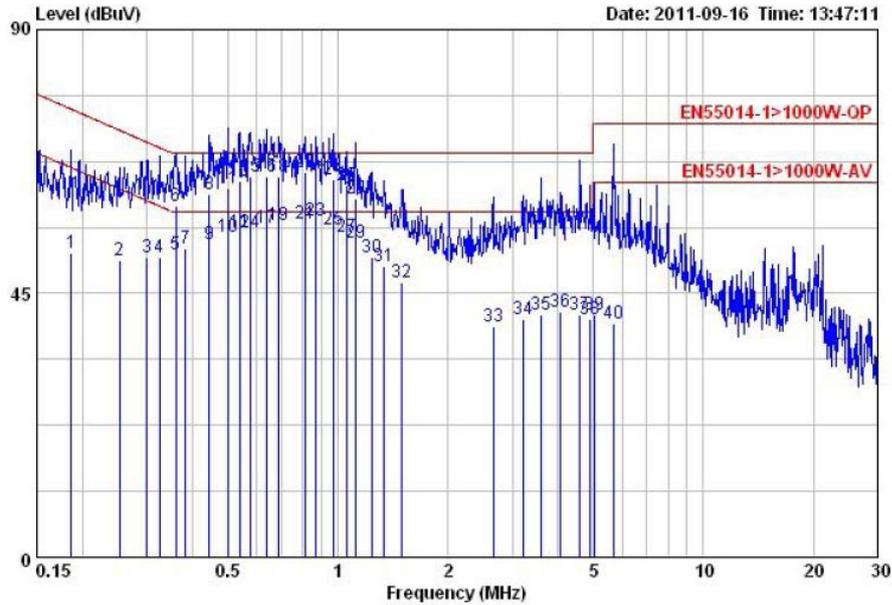
Port	AC mains
Test method	LISN
Mode	On mode with an artificial hand, no load

Line



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.16	43.47	10.25	53.72	68.31	-14.59	Average
2	0.22	40.39	10.24	50.63	64.62	-13.99	Average
3	0.24	39.86	10.24	50.10	63.43	-13.33	Average
4	0.33	40.53	10.25	50.78	59.68	-8.90	Average
5	0.48	50.05	10.25	60.30	69.00	-8.70	QP
6	0.48	42.22	10.25	52.47	59.00	-6.53	Average
7	0.60	51.74	10.25	61.99	69.00	-7.01	QP
8	0.60	43.82	10.25	54.07	59.00	-4.93	Average
9	0.77	45.27	10.25	55.52	59.00	-3.48	Average
10	0.77	53.44	10.25	63.69	69.00	-5.31	QP
11	1.73	31.79	10.25	42.04	59.00	-16.96	Average
12	2.65	38.32	10.25	48.57	69.00	-20.43	QP
13	2.65	29.11	10.25	39.36	59.00	-19.64	Average
14	3.16	38.01	10.25	48.26	69.00	-20.74	QP
15	3.16	29.55	10.25	39.80	59.00	-19.20	Average
16	3.45	29.80	10.25	40.05	59.00	-18.95	Average
17	3.45	39.14	10.25	49.39	69.00	-19.61	QP
18	4.20	30.05	10.24	40.29	59.00	-18.71	Average
19	4.20	40.06	10.24	50.30	69.00	-18.70	QP
20	4.62	39.55	10.24	49.79	69.00	-19.21	QP
21	4.62	29.78	10.24	40.02	59.00	-18.98	Average
22	5.19	38.23	10.24	48.47	74.00	-25.53	QP
23	5.19	28.80	10.24	39.04	64.00	-24.96	Average
24	6.19	27.48	10.24	37.72	64.00	-26.28	Average
25	6.59	26.83	10.25	37.08	64.00	-26.92	Average
26	7.69	25.32	10.25	35.57	64.00	-28.43	Average
27	12.65	14.85	10.24	25.09	64.00	-38.91	Average
28	17.85	19.54	10.19	29.73	64.00	-34.27	Average

Neutral



	Read Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.19	40.71	11.14	51.85	66.44	-14.59	Average
2	0.25	39.56	11.14	50.70	62.87	-12.17	Average
3	0.30	40.02	11.13	51.15	60.81	-9.66	Average
4	0.33	39.91	11.13	51.04	59.87	-8.83	Average
5	0.36	40.53	11.13	51.66	59.00	-7.34	Average
6	0.36	48.90	11.13	60.03	69.00	-8.97	QP
7	0.38	41.40	11.13	52.53	59.00	-6.47	Average
8	0.44	50.91	11.13	62.04	69.00	-6.96	QP
9	0.44	42.37	11.13	53.50	59.00	-5.50	Average
10	0.50	43.44	11.13	54.57	59.00	-4.43	Average
11	0.50	51.73	11.13	62.86	69.00	-6.14	QP
12	0.54	44.28	11.13	55.41	59.00	-3.59	Average
13	0.54	53.04	11.13	64.17	69.00	-4.83	QP
14	0.58	44.29	11.13	55.42	59.00	-3.58	Average
15	0.58	53.76	11.13	64.89	69.00	-4.11	QP
16	0.64	53.85	11.13	64.98	69.00	-4.02	QP
17	0.64	44.97	11.13	56.10	59.00	-2.90	Average

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
18	0.69	53.81	11.13	64.94	69.00	-4.06	QP
19	0.69	45.61	11.13	56.74	59.00	-2.26	Average
20	0.81	54.52	11.12	65.64	69.00	-3.36	QP
21	0.81	45.88	11.12	57.00	59.00	-2.00	Average
22	0.87	54.70	11.12	65.82	69.00	-3.18	QP
23	0.87	46.24	11.12	57.36	59.00	-1.64	Average
24	0.97	53.30	11.12	64.42	69.00	-4.58	QP
25	0.97	44.90	11.12	56.02	59.00	-2.98	Average
26	1.05	52.34	11.12	63.46	69.00	-5.54	QP
27	1.05	43.58	11.12	54.70	59.00	-4.30	Average
28	1.12	49.99	11.12	61.11	69.00	-7.89	QP
29	1.12	42.41	11.12	53.53	59.00	-5.47	Average
30	1.24	40.12	11.12	51.24	59.00	-7.76	Average
31	1.34	38.61	11.12	49.73	59.00	-9.27	Average
32	1.50	35.79	11.13	46.92	59.00	-12.08	Average
33	2.66	28.28	11.12	39.40	59.00	-19.60	Average
34	3.21	29.55	11.12	40.67	59.00	-18.33	Average
35	3.58	30.23	11.11	41.34	59.00	-17.66	Average
36	4.07	30.64	11.11	41.75	59.00	-17.25	Average
37	4.60	30.16	11.10	41.26	59.00	-17.74	Average
38	4.90	29.51	11.11	40.62	59.00	-18.38	Average
39	5.03	30.22	11.11	41.33	64.00	-22.67	Average
40	5.68	28.74	11.10	39.84	64.00	-24.16	Average

Refer to chapter 6 for the test set-up.

Conclusion:

PASS

4.2 Radiated emission

Standard	EN 55014-1	
Frequency [MHz]	QP [dB(pW)]	AV [dB(pW)]
30 – 300	45 – 55 *)	35 – 45 *)

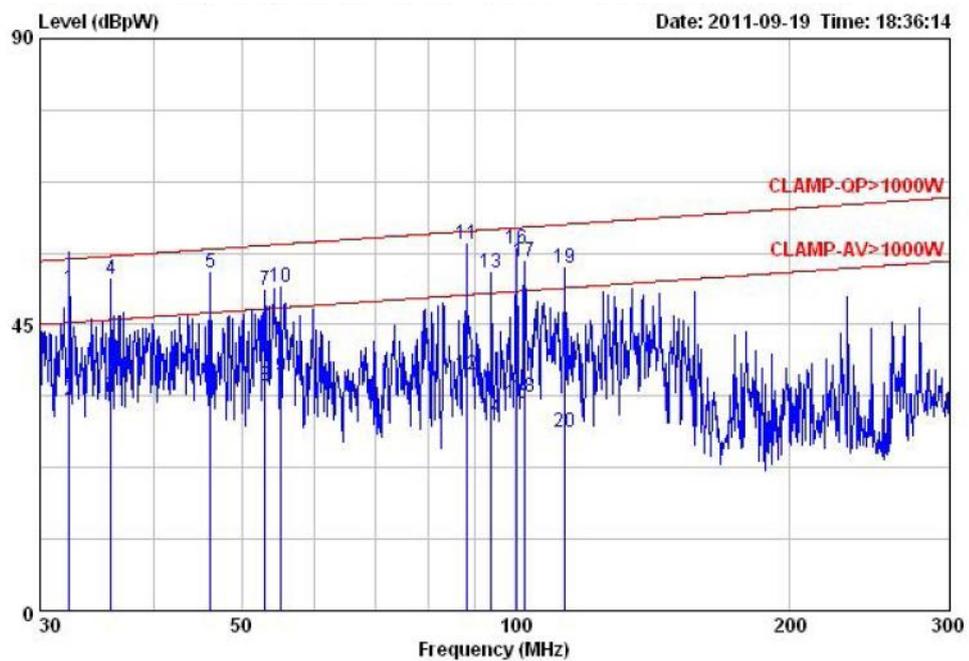
*) Limits increasing linearly with the frequency

For tools the following limits apply to the AC Mains port:

	Rated power below 700 W	Limits as above
	Rated power between 700 and 1000 W	Limits +4 dB
✓	Rated power above 1000 W	Limits +10 dB

Port	AC Mains
Mode	On mode with no load

Results



	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBpW	dB	dBpW	dBpW	dB	
1	32.29	35.02	15.73	50.75	55.32	-4.57	QP
2	32.29	17.45	15.73	33.18	45.32	-12.14	Average
3	35.90	18.20	15.61	33.81	45.78	-11.97	Average
4	35.90	36.51	15.61	52.12	55.78	-3.66	Peak
5	46.14	37.94	15.24	53.18	56.87	-3.69	Peak
6	46.14	20.66	15.24	35.90	46.87	-10.97	Average
7	52.98	35.37	15.00	50.37	57.47	-7.10	Peak
8	52.98	20.40	15.00	35.40	47.47	-12.07	Average
9	55.22	21.81	14.93	36.74	47.65	-10.91	Average
10	55.22	35.97	14.93	50.90	57.65	-6.75	Peak
11	88.33	43.18	14.38	57.56	59.69	-2.13	Peak
12	88.33	22.75	14.38	37.13	49.69	-12.56	Average
13	94.00	38.84	14.26	53.10	59.96	-6.86	Peak
14	94.00	16.19	14.26	30.45	49.96	-19.51	Average
15	100.03	18.41	14.20	32.61	50.23	-17.62	Average
16	100.03	42.77	14.20	56.97	60.23	-3.26	Peak
17	102.12	40.70	14.16	54.86	60.32	-5.46	Peak
18	102.12	19.43	14.16	33.59	50.32	-16.73	Average
19	113.27	39.80	13.99	53.79	60.77	-6.98	Peak
20	113.27	14.08	13.99	28.07	50.77	-22.70	Average

Refer to chapter 6 for the test set-up.

According to clause 4.1.2.3.2 (EN 55014-1:2006+A1:2009+A2:2011):

Appliances are deemed to comply in the frequency range from 300 MHz to 1 000 MHz if both of the following conditions (1) and 2)) are fulfilled:

- 1) all emission readings from the equipment under test shall be lower than the applicable limits (Table 2a) reduced by the margin (Table 2b);
- 2) the maximum clock frequency shall be less than 30 MHz.

Conclusion:

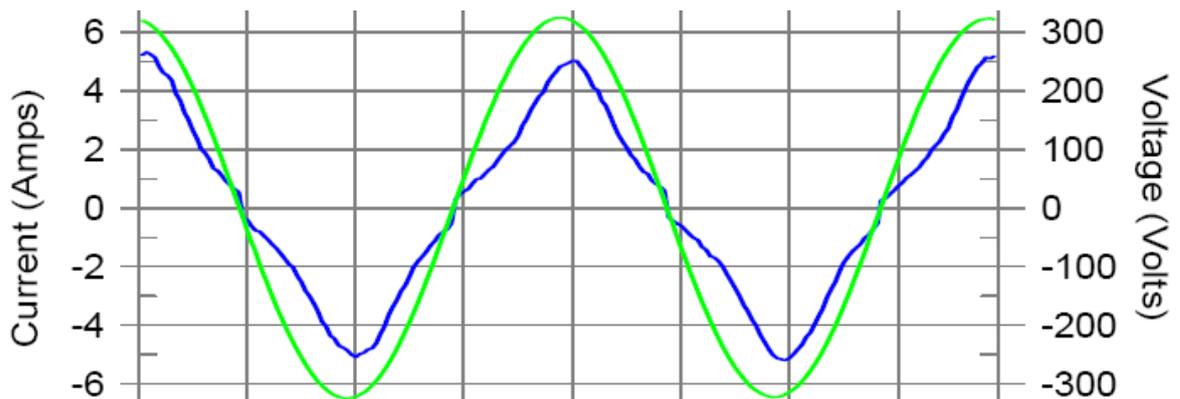
PASS

4.3 Harmonic currents

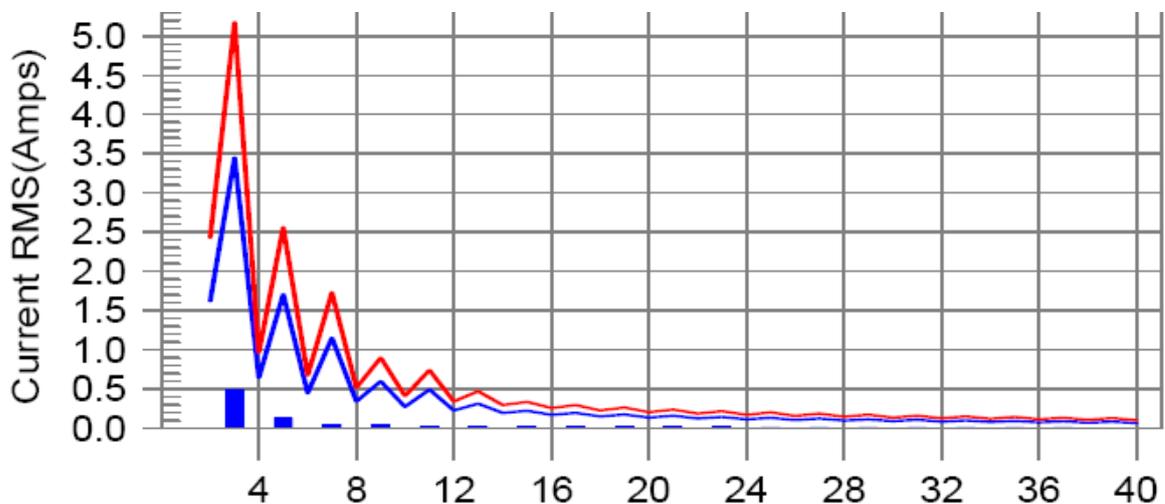
Standard	EN 61000-3-2
Port	AC Mains supply
Rated power	1100 W
Mode	On mode

	Class A	All apparatus not classified as Class B, C or D
✓	Class B	Portable tools
	Class C	Lighting equipment
	Class D	Personal computers, television receivers

Current & voltage waveforms



Harmonics and Class A limit line European Limits



Test Result: Pass Source qualification: Normal
 THC(A): 0.50 I-THD(%): 16.53 POHC(A): 0.000 POHC Limit(A): 0.480

Highest parameter values during test:

V_RMS (Volts): 229.35	Frequency(Hz): 50.00
I_Peak (Amps): 5.515	I_RMS (Amps): 3.095
I_Fund (Amps): 3.044	Crest Factor: 1.796
Power (Watts): 695.5	Power Factor: 0.983

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.004	1.620	0.0	0.006	2.430	0.00	Pass
3	0.476	3.450	13.8	0.482	5.175	9.32	Pass
4	0.003	0.645	0.0	0.004	0.968	0.00	Pass
5	0.132	1.710	7.7	0.137	2.565	5.33	Pass
6	0.002	0.450	0.0	0.003	0.675	0.00	Pass
7	0.052	1.155	4.5	0.054	1.733	3.13	Pass
8	0.002	0.345	0.0	0.003	0.518	0.00	Pass
9	0.037	0.600	6.2	0.039	0.900	4.32	Pass
10	0.002	0.276	0.0	0.003	0.414	0.00	Pass
11	0.029	0.495	5.9	0.031	0.743	4.14	Pass
12	0.001	0.230	0.0	0.002	0.344	0.00	Pass
13	0.023	0.315	7.2	0.024	0.473	5.00	Pass
14	0.001	0.197	0.0	0.002	0.296	0.00	Pass
15	0.020	0.225	9.0	0.021	0.338	6.27	Pass
16	0.001	0.173	0.0	0.003	0.259	0.00	Pass
17	0.019	0.199	9.6	0.020	0.297	6.77	Pass
18	0.001	0.153	0.0	0.002	0.230	0.00	Pass
19	0.017	0.178	0.0	0.018	0.266	0.00	Pass
20	0.001	0.138	0.0	0.002	0.207	0.00	Pass
21	0.015	0.161	0.0	0.016	0.241	0.00	Pass
22	0.001	0.125	0.0	0.002	0.188	0.00	Pass
23	0.014	0.147	0.0	0.015	0.220	0.00	Pass
24	0.001	0.115	0.0	0.002	0.173	0.00	Pass
25	0.013	0.135	0.0	0.014	0.203	0.00	Pass
26	0.001	0.106	0.0	0.002	0.159	0.00	Pass
27	0.012	0.125	0.0	0.013	0.188	0.00	Pass
28	0.001	0.099	0.0	0.002	0.148	0.00	Pass
29	0.011	0.116	0.0	0.012	0.175	0.00	Pass
30	0.001	0.092	0.0	0.002	0.138	0.00	Pass
31	0.010	0.110	0.0	0.011	0.163	0.00	Pass
32	0.001	0.086	0.0	0.002	0.129	0.00	Pass
33	0.010	0.102	0.0	0.010	0.153	0.00	Pass
34	0.001	0.081	0.0	0.002	0.122	0.00	Pass
35	0.009	0.096	0.0	0.010	0.145	0.00	Pass
36	0.001	0.077	0.0	0.002	0.115	0.00	Pass
37	0.009	0.092	0.0	0.009	0.137	0.00	Pass
38	0.001	0.073	0.0	0.002	0.109	0.00	Pass
39	0.008	0.087	0.0	0.009	0.130	0.00	Pass
40	0.002	0.069	0.0	0.004	0.104	0.00	Pass

Conclusion:

PASS

4.4 Voltage fluctuations (Flicker)

Standard	EN 61000-3-3
Port	AC Mains supply
Voltage	230 V _{AC}
Mode	On mode

Equipment intended to be connected to 230/400 V_{AC} 50 Hz supply systems may not produce voltage fluctuations in the supply systems due to variation of the input current above the limits as stated below.

P _{ST}	Not applicable*
P _{LT}	Not applicable*
T _{max} (dt > 3,3%)	≤ 500 ms
d _C	≤ 3,3%
d _{MAX}	≤ 4%

Results

T _{max} (dt > 3,3%)	0,0 ms
Maximum voltage change d _{MAX}	1,120%
Relative Voltage change d _C	0,350%
Short term flicker P _{ST}	Not applicable*
Long term flicker P _{LT}	Not applicable*

Conclusion:

PASS

5 IMMUNITY TEST RESULTS

5.1 Electrostatic discharge immunity

Electrostatic discharges (ESD) are the result of persons or objects that accumulate static electricity due to for instance walking on synthetic carpets. The ESD can influence the operation of equipment or damage its electronics, either by a direct discharge or indirectly by coupling or radiation. Both effects are simulated during the tests.

Requirements

Standard	EN 55014-2
Basic standard	EN 61000-4-2
Port	Enclosure
Performance criterion	B; During the test degradation is allowed. No change of operating state or stored data is allowed.
Air discharges	8 kV
Contact discharges	4 kV
Mode	On mode

Performed tests

Air discharges	✓	4 kV	✓	8 kV		15 kV		
Contact discharges	✓	2 kV	✓	4 kV		8 kV		
Via coupling planes	✓	Horizontal			✓	Vertical		
Polarity	✓	Positive			✓	Negative		
Set-up	✓	Table-top				Floor standing		
Ambient temperature	21 °C							
Relative Humidity air	48%							

Observations

During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.

Conclusion:

PASS

5.2 Electrical Fast Transient immunity

The EFT immunity test simulates disturbances by bursts of very short transients caused for example by switching off loads such as an AC motor or bouncing relay contacts. The transients are likely to disturb electronics but less likely to cause damage.

Requirements

Standard	EN 55014-2		
Basic standard	EN 61000-4-4		
Performance criterion	B; During the test degradation is allowed. No change of operating state or stored data is allowed.		
Pulse characteristics	5/50 ns		
Peak Voltage; Port	1 kV; AC input power port		
Repetition frequency	✓	5 kHz	2,5 kHz

Performed tests

Tested Voltage; Port	1 kV; AC input power port		
Mode	On mode		
Injection method	✓	CDN	Capacitive clamp
Polarity	✓	Positive	✓ Negative
Set-up	✓	Table-top	Floor standing

Observations

During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.

Conclusion:

PASS

5.3 Surge transient immunity

The surge transient immunity test simulates the surges that are caused by overvoltages due to indirect (induced) lightning transients. The pulse is a slow transient with high-energy contents and due to its long duration may cause damage to an unprotected EUT.

Requirements

Standard	EN 55014-2
Basic standard	EN 61000-4-5
Performance criterion	B; During the test degradation is allowed. No change of operating state or stored data is allowed.
Pulse characteristics	1,2/50 μ s
Peak Voltage; Port	1 kV; AC input power port (Line to line) 2 kV; AC input power port (Line to earth)

Performed tests

Tested Voltage; Port	1 kV; AC input power port (Line to line) 2 kV; AC input power port (Line to earth)			
Mode	On mode			
Polarity	✓	Positive	✓	Negative

Observations

During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.

Conclusion:

PASS

5.4 RF Conducted immunity

During this test the immunity of the equipment for induced or conducted electromagnetic fields is checked. Fields generated by radio and other transmitters cause RF voltages in long cables like the mains network. This test reproduces these induced disturbing voltages by injecting them to the EUT via the cabling.

Requirements

Standard	EN 55014-2
Basic standard	EN 61000-4-6
Performance criterion	A; Operation as intended
Frequency range	0,15 – 230 MHz
Modulation	1 kHz – 80% AM
Test level; Port	3 V; AC input power port

Performed tests

Tested level; Port	3 V; AC input power port		
Mode	On mode		
Frequency range	0,15 – 230 MHz		
Dwell time	3 seconds		
Injection method	✓	CDN-M3	EM clamp

Observations

During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.

Conclusion:

PASS

5.5 Power supply interruptions and dips

Requirements

Basic standard	EN 61000-4-11
Performance criterion	B; During the test degradation is allowed. No change of operating state or stored data is allowed. C; Temporary, self-recoverable loss of function is allowed.

Standard	EN 55014-2			
AC input power port			50 Hz	60 Hz
	C	$U_{NOM} - 30\%$	(25 periods)	(30 periods)
	C	$U_{NOM} - 60\%$	(10 periods)	(12 periods)
	C	$U_{NOM} - 100\%$	(0,5 period)	(0,5 period)

Performed tests

Tested voltage	AC input power port, 240 V _{AC}		
Mode	On mode		
AC input power port	50 Hz		60 Hz
	$U_{NOM} - 30\%$ (25 periods)		$U_{NOM} - 30\%$ (30 periods)
	$U_{NOM} - 60\%$ (10 periods)		$U_{NOM} - 60\%$ (12 periods)
	$U_{NOM} - 100\%$ (0,5 period)		$U_{NOM} - 100\%$ (0,5 period)

Observations

During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.

Conclusion:

PASS

6 IDENTIFICATION OF THE EQUIPMENT UNDER TEST

The photograph shows the tested device.

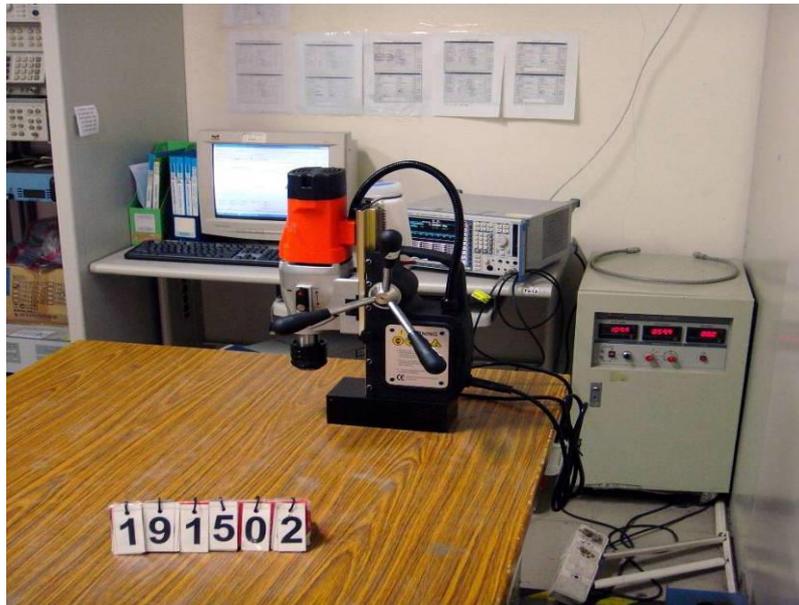


Figure 3 Conducted Emission test setup



Figure 4 Disturbance power test setup

7 MODEL LIST

Model name	Rated input voltage	Rated input power	No-load speed	Auto feed
MD300N, MR-3035.1100, MAGPRO 35 Semi-Automatic, MB300 auto, HF-30A	110-120 V/220-240 V	1100 W	550 min ⁻¹	Yes
MD300	110-120 V/220-240 V	1100 W	620 min ⁻¹	Yes
SMD351L, MR-3550.1100, MMD35, MAGPRO 35/1S ADJUST	110-120 V/220-240 V	1100 W	450 min ⁻¹	No
SMD351H, MD0351	110-120 V/220-240 V	1100 W	730 min ⁻¹	No
SMD352, MAGPRO 35/2S ADJUST	110-120 V/220-240 V	1100 W	450/730 min ⁻¹	No
SMD502, ST50, R502, MMD50, MAGPRO 50/2S ADJUST, MB502E,16082605, AC50	110-120 V/220-240 V	1100 W	300/450 min ⁻¹	No
MD350N, MD-35Q, KW1500380, MB351, HF-35, 35PM	110-120 V/220-240 V	1100 W	550 min ⁻¹	No
MD350	110-120 V/220-240 V	1100 W	620 min ⁻¹	No
SMA300	110-120 V/220-240 V	1100 W	550 min ⁻¹	No
SMA351L	110-120 V/220-240 V	1100 W	450 min ⁻¹	No
SMA351H	110-120 V/220-240 V	1100 W	730 min ⁻¹	No
SMA352	110-120 V/220-240 V	1100 W	450/730 min ⁻¹	No
SMA502	110-120 V/220-240 V	1100 W	300/450 min ⁻¹	No
731-C	110-120 V/220-240 V	1100 W	450/730 min ⁻¹	No
742-C	110-120 V/220-240 V	1100 W	300/450 min ⁻¹	No
942-C	110-120 V/220-240 V	1100 W	300/450 min ⁻¹	No

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