



**EUROFINS PRODUCT TESTING SERVICE (SHANGHAI) CO., LTD.**

# **EMC TEST- REPORT**

**TEST REPORT NUMBER: EFSH21101017-IE-01-E01**



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## 2 General Information

### 2.1 Notes

The results of this test report relate exclusively to the item tested as specified in chapter “EUT Information” and are not transferable to any other test items.

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#### Operator:

2021-11-01

Kalsi Chen / Project Engineer



Date

Eurofins-Lab.

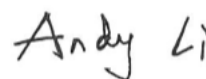
Name / Title

Signature

#### Technical responsibility for area of testing:

2021-11-01

Andy Li / Supervisor



Date

Eurofins

Name / Title

Signature

Test Report No.: EFSH21101017-IE-01-E01

Eurofins Product Testing Service (Shanghai) Co., Ltd.  
Building 18, No.2168 Chenhang Highway, Minhang District, Shanghai, China

## **2.2     Testing laboratory**

### **Eurofins Product Testing Service (Shanghai) Co., Ltd.**

Building 18, No.2168 Chenhang Highway, Minhang District, Shanghai, China

Telephone    : +86-21-61819181

Telefax       : +86-21-61819180

**Test location, where different:**

## 2.3 Details of approval holder

Name : NINGBO DELI TOOLS CO., LTD.  
Address : No. 128 Chezhan West Road, Huangtan Town, Ninghai County,  
Ningbo, Zhejiang, China  
Telephone : ./.  
Fax : ./.

## 2.4 Application details

Date of receipt of test item : 2021-10-20  
Date of test : 2021-10-26

## 2.5 EUT information

Product type : Rotary Hammer  
Model name : DL-DC26-E1  
Brand name : deli  
Serial number : ./.  
Ratings : 220-240V~, 50-60Hz, 800W, no: 0-1150/min, Ø26mm, Class II  
Test voltage : 230V~, 50Hz  
Additional information :

The tool is intended to drill in wood, metal, plastic and masonry as well as for light chiselling.

## 2.6 Test standards

Technical standard :

**EN IEC 55014-1:2021**

**EN IEC 55014-2: 2021**

**EN IEC 61000-3-2: 2019+A1: 2021**

**EN 61000-3-3: 2013+A1: 2019**

### **3 Technical test**

#### **3.1 Summary of test results**

No deviations from the technical specification(s) were ascertained in the course of the tests performed.



or

The deviations as specified were ascertained in the course of the tests performed.



#### **3.2 Test environment**

Eurofins Product Testing Service (Shanghai) Co., Ltd.

Temperature : 20 ... 25°C

Relative humidity content : 30 ... 60%

Air pressure : 100 ... 103kPa

#### **3.3 Test mode**

Operating (Max. level)

### 3.4 Test equipment utilized

Measurement Equipment List				
No.	Name:	Type:	Manufacturer:	Cal due date:
1	EMI test receiver	ESCI	R&S	2022-03-25
2	Artificial mains	ENV216	R&S	2022-03-25
3	Click analyser	CL55C	AFJ	2022-09-05
4	Absorbing clamp	MDS 21B	TESEQ	2022-05-31
5	Single phase Harmonics & Flicker analyser	PACS-1	California Instruments	2022-03-25
6	AC Power Source	5001ix	California Instruments	2022-03-25
7	ESD Gun	NSG 437	TESEQ	2022-05-13
8	Ultra Compact Simulator	UCS 500N7	EMTEST	2022-04-05
9	Continuous wave simulator	CWS500N1	EMTEST	2022-03-25
10	Coupling/Decoupling Network	L 801 M2/M3	Luethi	2022-03-25
11	Attenuator	WA59-6-33	Weinschel	2022-03-25

### 3.5 Test results

☒ 1st test

☐ test after modification

☐ production test

Test case	Subclause	Required	Test passed	Test failed
Conducted Emission	Clause 4.3.2 & 4.3.3 of EN IEC 55014-1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Disturbance power	Clause 4.3.4 of EN IEC 55014-1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated disturbance	Clause 4.3.4 of EN IEC 55014-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radiated disturbance (1GHz to 6GHz)	Clause 4.3.5 of EN IEC 55014-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magnetic field (equipment using IPT)	Clause 4.3.2 of EN IEC 55014-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discontinuous disturbance	Clause 4.4.2 of EN IEC 55014-1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harmonic Current Emissions	EN IEC 61000-3-2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Voltage Changes, Voltage Fluctuations and Flicker	EN 61000-3-3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Electrostatic Discharge	Clause 5.1 of EN IEC 55014-2 & IEC 61000-4-2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electrical Fast Transients	Clause 5.2 of EN IEC 55014-2 & IEC 61000-4-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injected currents	Clause 5.3 & 5.4 of EN IEC 55014-2 & IEC 61000-4-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Radio frequency electromagnetic fields	Clause 5.5 of EN IEC 55014-2 & IEC 61000-4-3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surges	Clause 5.6 of EN IEC 55014-2 & IEC 61000-4-5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Voltage dips	Clause 5.7 of EN IEC 55014-2 & IEC 61000-4-11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note 1: The additional margin (0-10dB) was met in the frequency range 200MHz to 300MHz in Disturbance power test (absorbing clamp), and the EUT did not contain any circuit with clock frequency more than 30MHz, so the EUT was compliant with the Radiated disturbance test (300MHz-1GHz) without test.

Note 2: Radiated disturbance test in the frequency range from 1 GHz to 6 GHz is not required as the highest clock frequency (F<sub>x</sub>) of EUT is less than 108MHz.

Note 3: The click rate was less than 5, and the click duration was less than 10ms. So it is deemed to comply with Discontinuous disturbance test.

Note 4: Category I apparatus is deemed to fulfil the relevant immunity requirements without testing.



## 4 Emission Test

### 4.1 Conducted Emission

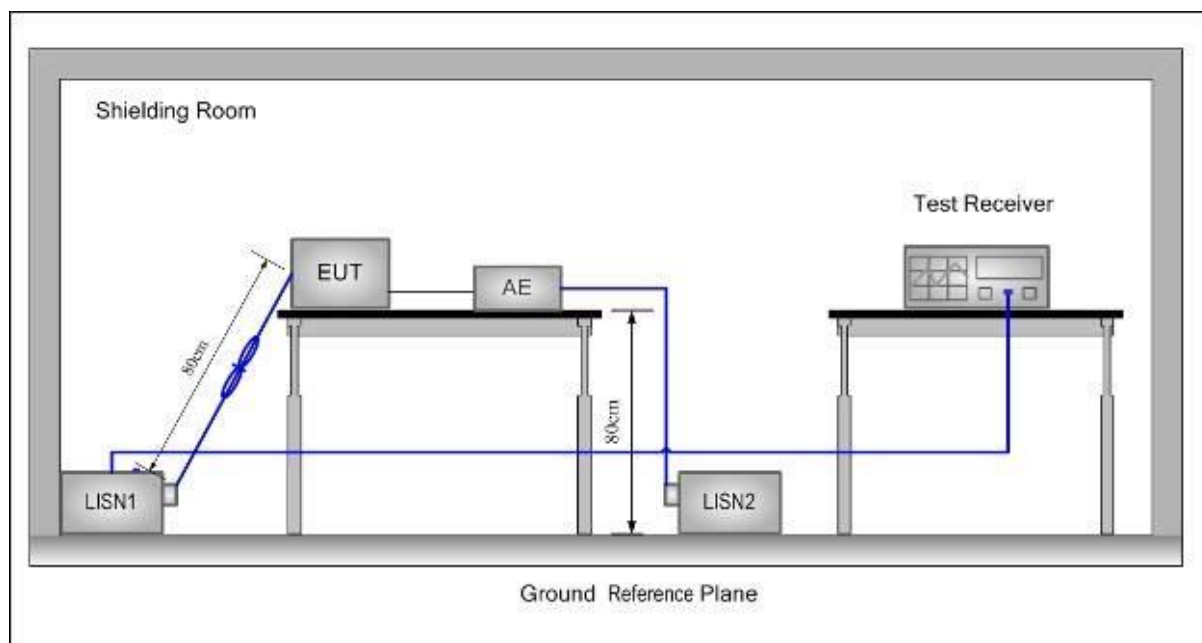
This clause lays down the general requirements for the measurement of disturbance voltage produced at the terminals of apparatus.

#### 4.1.1 Limits

Frequency	Rated motor power not exceeding 700W		Rated motor power above 700 W and not exceeding 1 000 W		Rated motor power above 1000W	
(MHz)	dB (μV) Quasi-peak	dB (μV) Average	dB (μV) Quasi-peak	dB (μV) Average	dB (μV) Quasi-peak	dB (μV) Average
0.15 to 0.35	66 to 59	59 to 49	70 to 63	63 to 53	76 to 69	69 to 59
0.35 to 5	59	49	63	53	69	59
5 to 30	64	54	68	58	74	64

Decreasing linearly with the logarithm of the frequency from.

#### 4.1.2 Measurement procedure



1. The mains terminal disturbance voltage was measured with the EUT in a shielded room.
2. The EUT was connected to AC power source through a LISN (Line Impedance Stabilization Network) which provides a  $(50 \mu H + 5 \Omega) \parallel 50 \Omega$  linear impedance. The power cables of all other units of the EUT were connected to a second LISN, which was bonded to the ground reference plane in the same way as the LISN for the unit being measured.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.

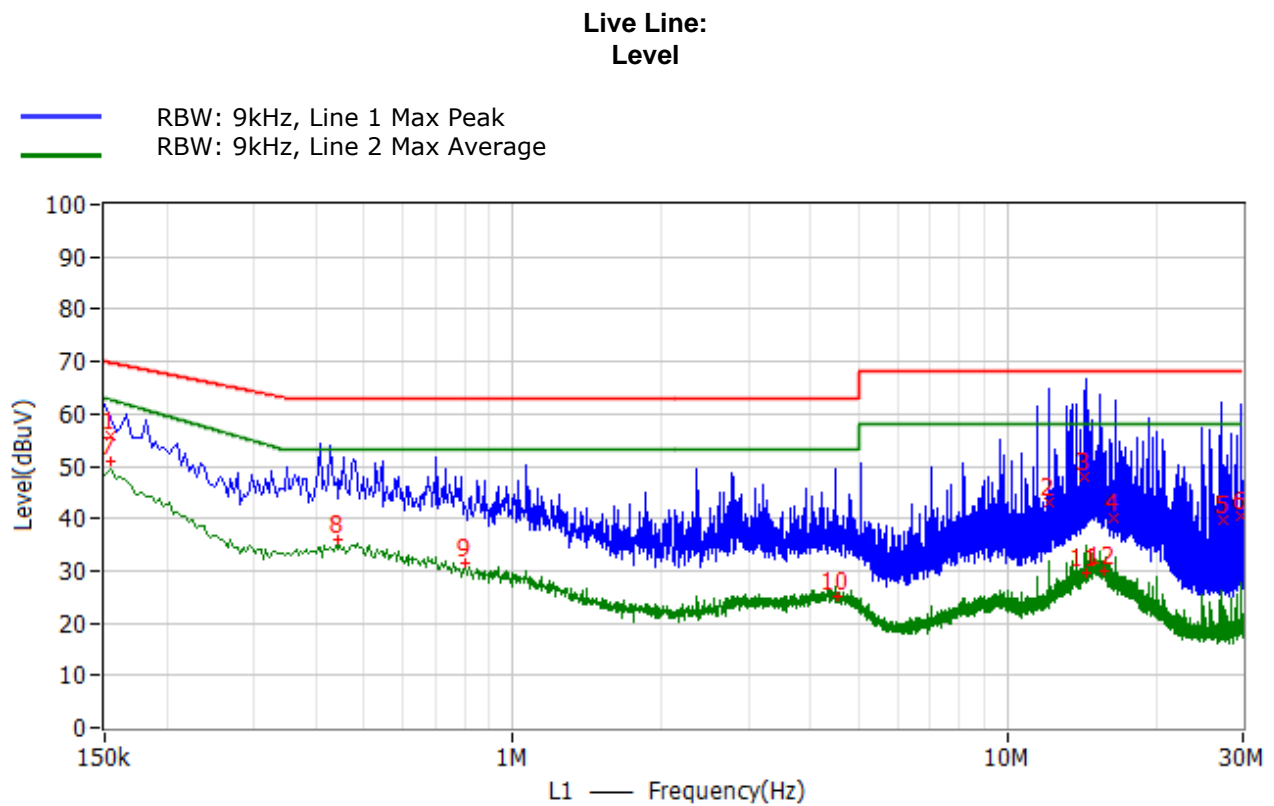
4. Before get the final emission results with quasi-peak(QP) detector and average(AVG) detector, a pre-scan was performed with the peak(PK) and average(AVG) detector to find out the maximum emission data plots of the EUT.

#### 4.1.3 Measurement uncertainty

U<sub>lab</sub>(cond) = 2.5dB at 95% level of confidence, k=2

#### 4.1.4 Results -Measurement Data

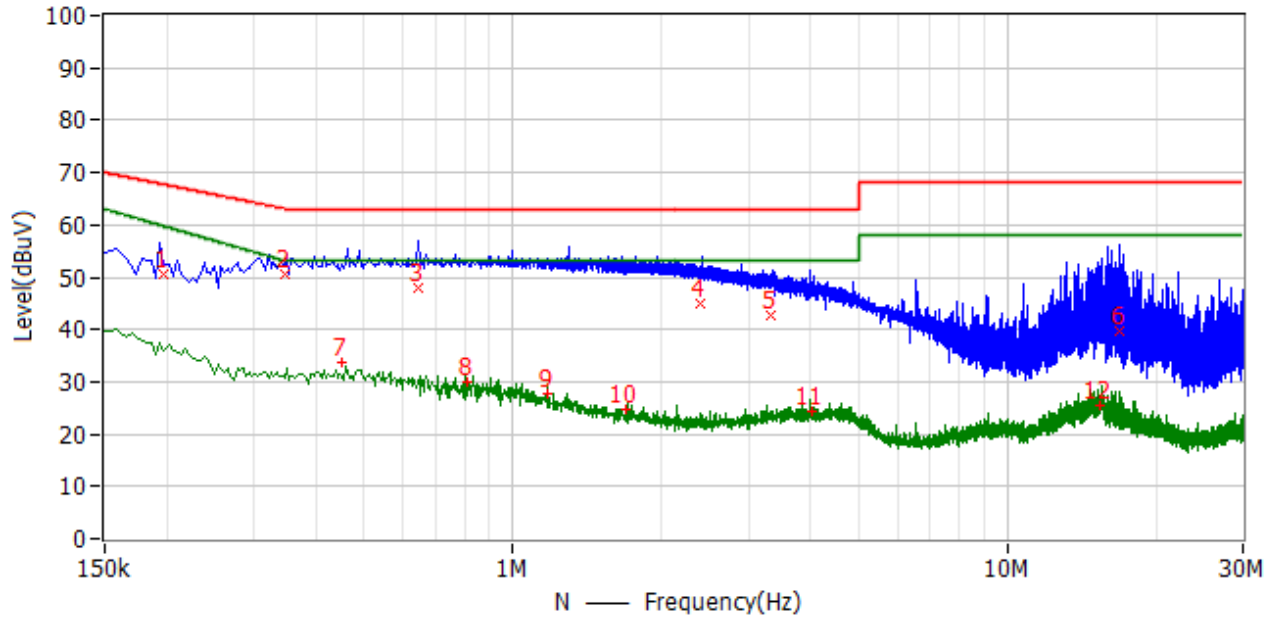
Remark: The waveform using peak detector just for reference, not final result.  
The final results refer to detailed readings using QP and AVG detector.



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Factor dB	Detector	Phase
1	154.000 kHz	69.8	55.8	-14.0	10.3	QP	L1
2	12.158 MHz	68.0	43.1	-24.9	10.6	QP	L1
3	14.346 MHz	68.0	47.9	-20.1	10.6	QP	L1
4	16.442 MHz	68.0	40.2	-27.8	10.6	QP	L1
5	27.322 MHz	68.0	39.8	-28.2	10.6	QP	L1
6	29.686 MHz	68.0	40.3	-27.7	10.5	QP	L1
7	154.000 kHz	62.7	50.9	-11.8	10.3	CAV	L1
8	446.000 kHz	53.0	35.8	-17.2	10.5	CAV	L1
9	802.000 kHz	53.0	31.6	-21.4	10.3	CAV	L1
10	4.542 MHz	53.0	25.1	-27.9	10.6	CAV	L1
11	14.442 MHz	58.0	29.7	-28.3	10.6	CAV	L1
12	15.746 MHz	58.0	30.0	-28.0	10.6	CAV	L1

## Neutral Line: Level

— RBW: 9kHz, Line 1 Max Peak  
— RBW: 9kHz, Line 2 Max Average



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Factor dB	Detector	Phase
1	198.000 kHz	67.7	50.6	-17.1	10.4	QP	N
2	346.000 kHz	63.1	50.4	-12.7	10.4	QP	N
3	646.000 kHz	63.0	47.8	-15.2	10.3	QP	N
4	2.398 MHz	63.0	44.9	-18.1	10.4	QP	N
5	3.318 MHz	63.0	42.7	-20.3	10.4	QP	N
6	16.854 MHz	68.0	39.8	-28.2	10.6	QP	N
7	454.000 kHz	53.0	33.7	-19.3	10.4	CAV	N
8	814.000 kHz	53.0	30.0	-23.0	10.4	CAV	N
9	1.174 MHz	53.0	27.9	-25.1	10.4	CAV	N
10	1.702 MHz	53.0	24.7	-28.3	10.4	CAV	N
11	4.038 MHz	53.0	24.2	-28.8	10.4	CAV	N
12	15.402 MHz	58.0	25.3	-32.7	10.6	CAV	N

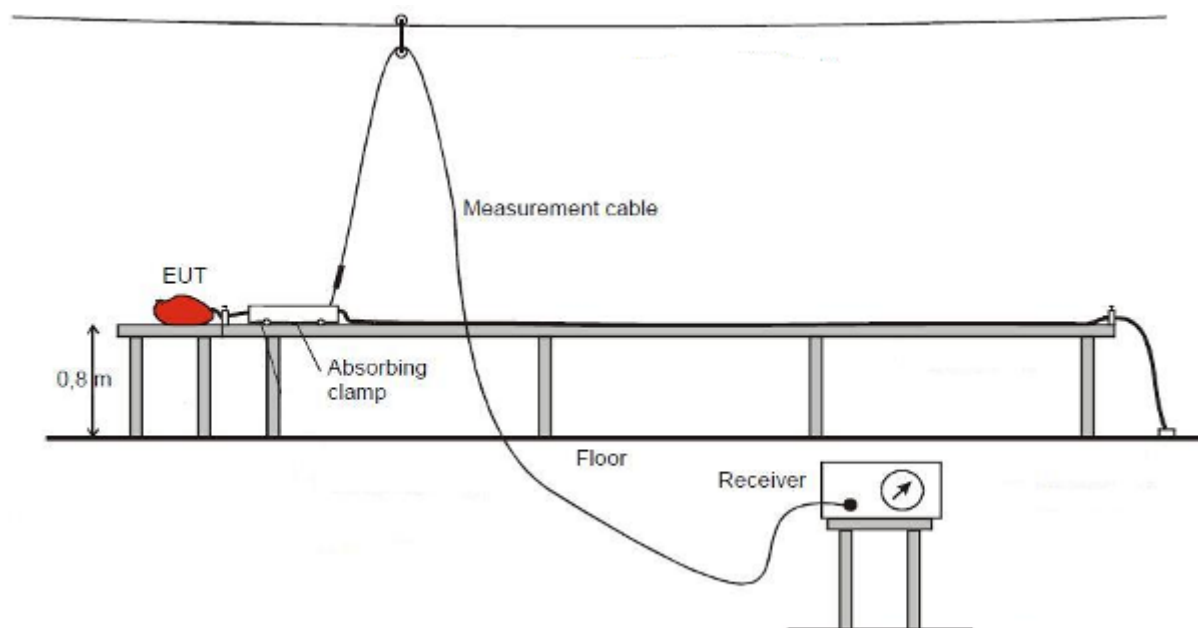
## 4.2 Disturbance power

This clause lays down the general requirements for the measurement of disturbance power produced at the terminals of apparatus.

### 4.2.1 Limits

Household and similar appliances		Tools						
1	2	3	4	5	6	7	8	9
Frequency			Rated motor power not exceeding 700W		Rated motor power above 700W and not exceeding 1000W		Rated motor power above 1000 W	
(MHz)	dB(pW) Quasi-peak	dB(pW) Average	dB(pW) Quasi-peak	dB(pW) Average	dB(pW) Quasi-peak	dB(pW) Average	dB(pW) Quasi-peak	dB(pW) Average
30 to 300	45 to 55	35 to 45	45 to 55	35 to 45	49 to 59	39 to 49	55 to 65	45 to 55
Increasing linearly with the frequency from.								

### 4.2.2 Measurement procedure

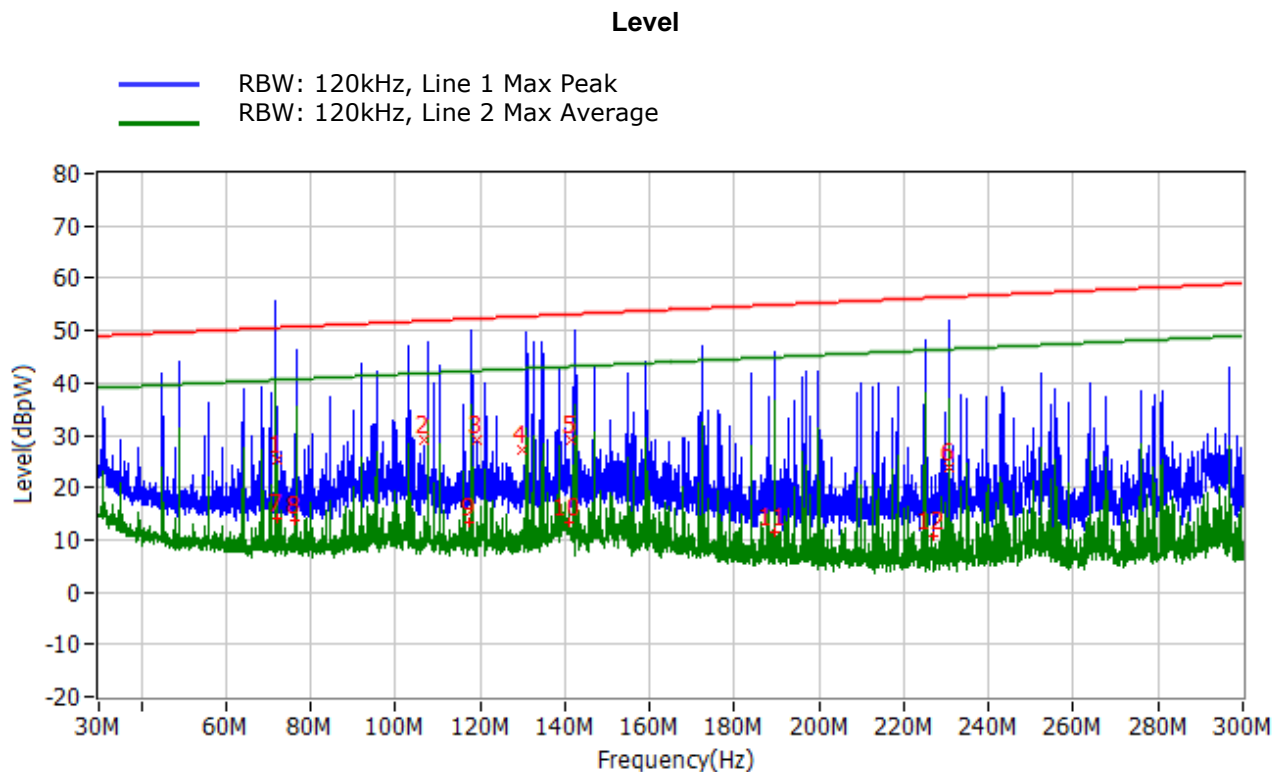


The test configuration corresponds to the standard. The equipment under test is placed on a non-metallic table with 0,8 m high. The lead to be measured is stretched horizontally in a straight line, to permit variation in position of the absorbing clamp along the lead to find the maximum indication. The lead shall be at least length of 6 meter. Before get the final emission results with quasi-peak(QP) detector and average(AVG) detector, a pre-scan was performed with the peak(PK) detector to find out the maximum emission data plots of the EUT. The absorbing clamp is placed around the lead.

### 4.2.3 Measurement uncertainty

U<sub>lab(cond)</sub> = 4.08 dB at confidence of 95%,k=2

### 4.2.4 Results



No.	Frequency	Limit dBpW	Level dBpW	Delta dB	Factor dB	Detector
1	71.940 MHz	50.6	25.3	-25.2	5.9	QP
2	106.920 MHz	51.8	29.0	-22.9	5.5	QP
3	119.220 MHz	52.3	29.0	-23.3	5.1	QP
4	130.020 MHz	52.7	27.3	-25.4	4.7	QP
5	141.360 MHz	53.1	29.1	-24.0	4.3	QP
6	230.640 MHz	56.4	24.0	-32.4	2.5	QP
7	72.180 MHz	40.6	13.9	-26.7	5.9	CAV
8	76.080 MHz	40.7	13.8	-27.0	5.8	CAV
9	117.240 MHz	42.2	13.2	-29.0	5.2	CAV
10	141.120 MHz	43.1	13.4	-29.8	4.3	CAV
11	189.600 MHz	44.9	11.5	-33.4	2.8	CAV
12	226.860 MHz	46.3	10.7	-35.6	2.4	CAV

## 4.3 Harmonic Current Emissions

This part deals with the limitation of harmonic currents injected into the public supply system.

### 4.3.1 Limits

**Table 1 – Limits for Class A equipment**

Harmonic order $h$	Maximum permissible harmonic current A
<b>Odd harmonics</b>	
3	2,30
5	1,14
7	0,77
9	0,40
11	0,33
13	0,21
$15 \leq h \leq 39$	$0,15 \frac{15}{h}$
<b>Even harmonics</b>	
2	1,08
4	0,43
6	0,30
$8 \leq h \leq 40$	$0,23 \frac{8}{h}$

**Table 2 – Limits for Class C equipment <sup>a</sup>**

Harmonic order $h$	Maximum permissible harmonic current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	27 <sup>b</sup>
5	10
7	7
9	5
$11 \leq h \leq 39$ (odd harmonics only)	3
<sup>a</sup> For some Class C products, other emission limits apply (see 7.4). <sup>b</sup> The limit is determined based on the assumption of modern lighting technologies having power factors of 0,90 or higher.	

**Table 3 – Limits for Class D equipment**

Harmonic order $h$	Maximum permissible harmonic current per watt mA/W	Maximum permissible harmonic current A
3	3,4	2,30
5	1,9	1,14
7	1,0	0,77
9	0,5	0,40
11	0,35	0,33
$13 \leq h \leq 39$ (odd harmonics only)	$\frac{3,85}{h}$	See Table 1

**Limits for Class A equipment:**

For Class A equipment, the harmonics of the input current shall not exceed the values given in Table 1

**Limits for Class B equipment:**

For Class B equipment, the harmonics of the input current shall not exceed the values given in Table 1 multiplied by a factor of 1,5.

**Limits for Class C equipment:**

Rated power > 25 W:

For luminaires with incandescent lamps and built-in phase control dimming having a rated power greater than 25W, the harmonics of the input current shall not exceed the limits given in Table 1.

For any other lighting equipment having a rated power greater than 25W, the harmonics of the input current shall not exceed the relative limits given in Table 2.

Rated power  $\geq 5$  W and  $\leq 25$  W:

Lighting equipment having a rated power greater than or equal to 5 W and less than or equal to 25 W shall comply with one of the following three sets of requirement:

- The harmonic currents shall not exceed the power-related limits of Table 3, column 2.

Or

- The third harmonic current, expressed as a percentage of the fundamental current, shall not exceed 86 % and the fifth harmonic current shall not exceed 61 %. In addition, the waveform of the input current shall be such that it reaches the 5 % current threshold before or at 60°, has its peak value before or at 65° and does not fall below the 5 % current threshold before 90°, referenced to any zero crossing of the fundamental supply voltage. The current threshold is 5 % of the highest absolute peak value that occurs in the measurement window, and the phase angle measurements are made on the cycle that includes this absolute peak value.

Or

- The THD shall not exceed 70%. The third order harmonic current, expressed as a percentage of the fundamental current, shall not exceed 35%, the fifth order current shall not exceed 25%, the seventh order current shall not exceed 30%, the ninth and eleventh order currents shall not exceed 20% and the second order current shall not exceed 5%.

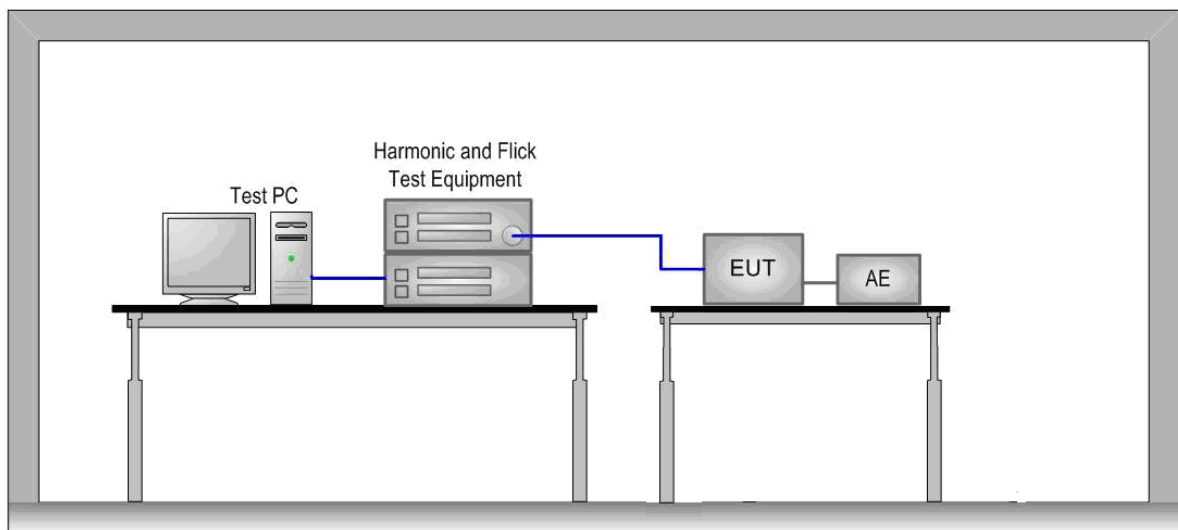
**Limits for Class D equipment:**

For Class D equipment, the input current at harmonic frequencies shall not exceed the values given in Table 3.

**For the following categories of equipment, limits are not specified:**

- Lighting equipment with a rated power less than but not equal to 5W;
- Equipment with rated power of 75 W or less, other than lighting equipment;
- Professional equipment with a total rated power greater than 1 kW;
- Symmetrically controlled heating elements with a rated power less than or equal to 200 W;
- Independent phase control dimmers with a rated power less than or equal to 1 kW when operating incandescent lamps, or with a rated power less than or equal to 200 W for trailing edge dimmers
- when operating lighting equipment other than incandescent lamps, or with a rated power less than or equal to 100 W for leading edge dimmers when operating lighting equipment other than incandescent lamps.

#### 4.3.2 Measurement procedure



The equipment under test is placed on a wooden table with a height of 0,8 m in the EMC lab.

For each harmonic order, measure the 1,5 s smoothed RMS harmonic current in each DFT time window and calculate the arithmetic average of the measured values from the DFT time windows, over the entire observation period.

The average values for the individual harmonic currents, taken over the entire test observation period shall be less than or equal to the applicable limits.

For each harmonic order, all 1.5 s smoothed RMS harmonic current values shall be either:

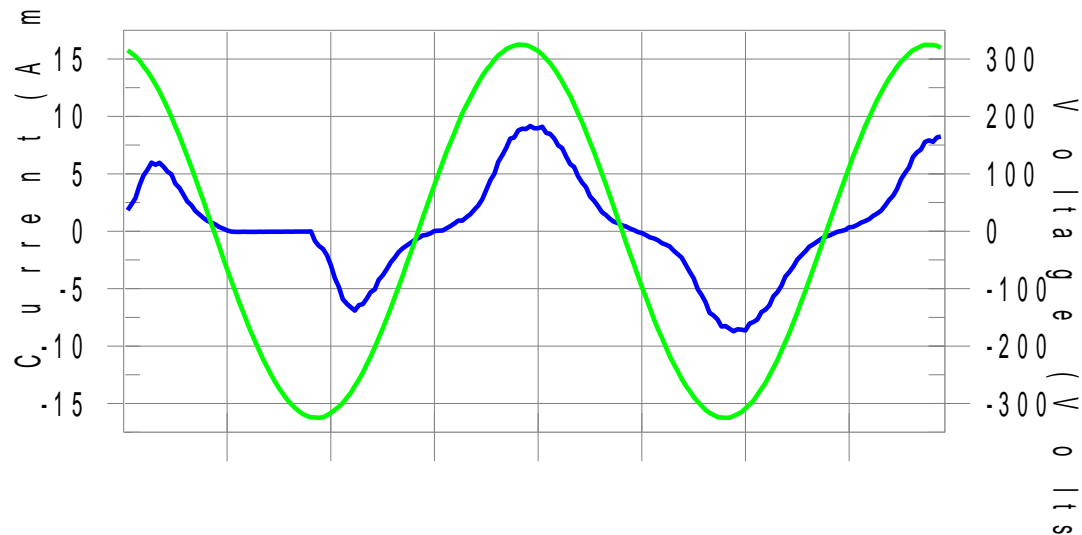
- a) Less than or equal to 150% of the applicable limits, or
- b) Less than or equal to 200% of the applicable limits under the following conditions:
  - 1) The EUT belongs to Class A for harmonics,
  - 2) The excursion beyond 150% of the applicable limits lasts less than 10% of the test observation period or in total 10 min, whichever is smaller, and
  - 3) The average value of the harmonic current, taken over the entire test observation period, is less than 90% of the applicable limits.



### Harmonic

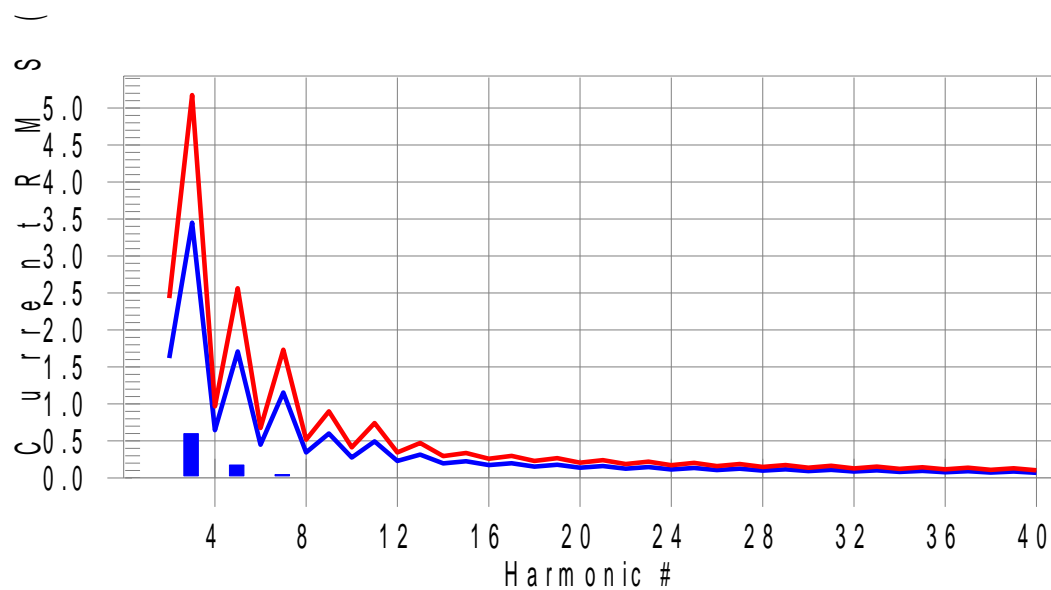
Test Result: Pass Source qualification: Normal

#### Current & voltage waveforms



#### Harmonics and Class B limit line

#### European Limits



**Test result: Pass Worst harmonics H3-18.8% of 150% limit, H3-17.3% of 100% limit**

## Current Test Result Summary

Test Result: Pass      Source qualification: Normal  
 THC(A): 0.624    I-THD(%): 26.8    POHC(A): 0.010    POHC Limit(A): 0.377

### Highest parameter values during test:

V_RMS (Volts):	230.21	Frequency(Hz):	50.00
I_Peak (Amps):	9.224	I_RMS (Amps):	3.174
I_Fund (Amps):	2.328	Crest Factor:	2.904
Power (Watts):	527.9	Power Factor:	0.964

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.005	1.620	N/A	0.017	2.430	N/A	Pass
3	0.597	3.450	17.3	0.971	5.175	18.8	Pass
4	0.002	0.645	N/A	0.011	0.968	N/A	Pass
5	0.174	1.710	10.2	0.448	2.565	17.5	Pass
6	0.002	0.450	N/A	0.007	0.675	N/A	Pass
7	0.046	1.155	4.0	0.175	1.733	10.1	Pass
8	0.002	0.345	N/A	0.008	0.518	N/A	Pass
9	0.020	0.600	3.3	0.063	0.900	7.0	Pass
10	0.002	0.276	N/A	0.004	0.414	N/A	Pass
11	0.006	0.495	N/A	0.022	0.743	N/A	Pass
12	0.001	0.230	N/A	0.003	0.345	N/A	Pass
13	0.005	0.315	N/A	0.018	0.473	N/A	Pass
14	0.001	0.197	N/A	0.004	0.295	N/A	Pass
15	0.008	0.225	N/A	0.033	0.338	N/A	Pass
16	0.002	0.173	N/A	0.007	0.260	N/A	Pass
17	0.006	0.199	N/A	0.025	0.299	N/A	Pass
18	0.002	0.153	N/A	0.007	0.230	N/A	Pass
19	0.007	0.178	N/A	0.026	0.267	N/A	Pass
20	0.001	0.138	N/A	0.002	0.207	N/A	Pass
21	0.005	0.161	N/A	0.017	0.241	N/A	Pass
22	0.001	0.125	N/A	0.002	0.188	N/A	Pass
23	0.004	0.147	N/A	0.017	0.221	N/A	Pass
24	0.001	0.115	N/A	0.002	0.173	N/A	Pass
25	0.003	0.135	N/A	0.012	0.203	N/A	Pass
26	0.001	0.106	N/A	0.002	0.159	N/A	Pass
27	0.003	0.125	N/A	0.012	0.188	N/A	Pass
28	0.001	0.099	N/A	0.002	0.149	N/A	Pass
29	0.003	0.116	N/A	0.008	0.174	N/A	Pass
30	0.001	0.092	N/A	0.002	0.138	N/A	Pass
31	0.003	0.110	N/A	0.009	0.164	N/A	Pass
32	0.001	0.086	N/A	0.001	0.129	N/A	Pass
33	0.002	0.102	N/A	0.007	0.153	N/A	Pass
34	0.001	0.081	N/A	0.001	0.122	N/A	Pass
35	0.002	0.096	N/A	0.008	0.144	N/A	Pass
36	0.001	0.077	N/A	0.001	0.116	N/A	Pass
37	0.002	0.092	N/A	0.006	0.137	N/A	Pass
38	0.001	0.073	N/A	0.001	0.110	N/A	Pass
39	0.002	0.087	N/A	0.007	0.131	N/A	Pass
40	0.001	0.069	N/A	0.001	0.104	N/A	Pass

## 4.4 Voltage Changes, Voltage Fluctuations and Flicker

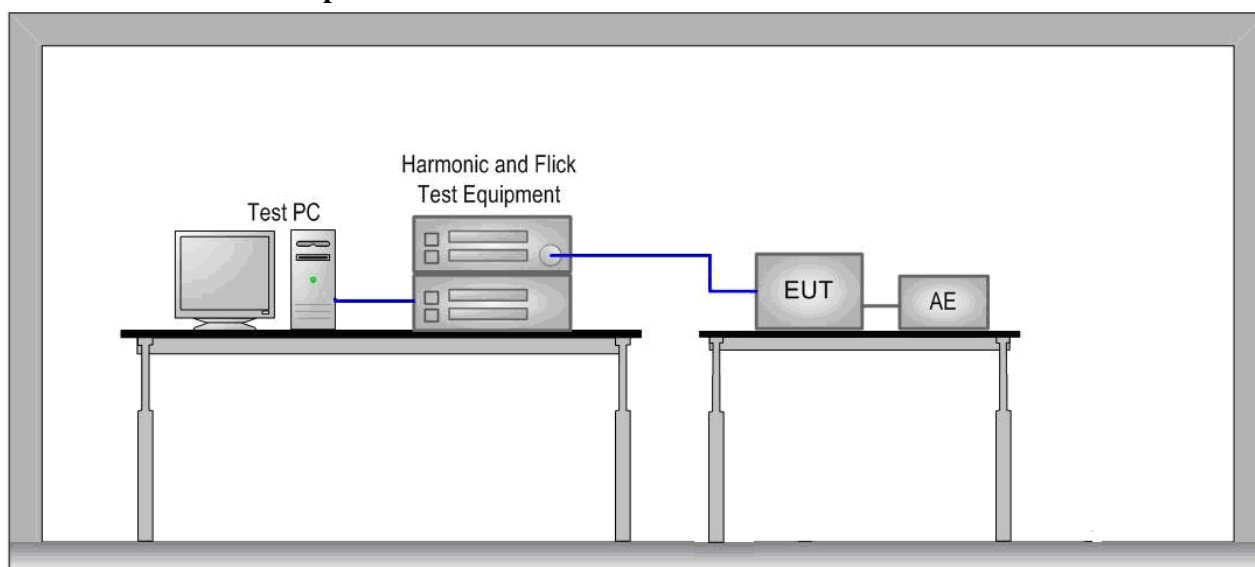
This part is concerned with the limitation of voltage fluctuations and flicker impressed on the public low-voltage system.

### 4.4.1 Limits

Value	Limit
Pst	1,0
Plt	0,65
dt	3,3%
dc	3,3%
dmax	7,0%

For portable tools, Plt shall not be evaluated. For portable tools without heating elements, Pst shall not be evaluated. For portable tools with heating elements, Pst shall be evaluated as follows. Switch on the tool and allow to operate continuously for 10 min, or until it switches off automatically.

### 4.4.2 Measurement test procedure



The equipment under test is placed on a wooden table with a height of 0,8 m in the EMC lab. The voltage fluctuations and flicker were measured at the supply terminals of the EUT.

### 4.4.3 Results

Parameter values recorded during the test:

Vrms at the end of test (Volt): 230.10

T-max (mS): 0

Highest dc (%): -0.74

Highest dmax (%): 0.79

Test limit (mS): 500.0 Pass

Test limit (%): 3.30 Pass

Test limit (%): 7.00 Pass

## 5 Immunity Test

### 5.1 Performance Criteria Description in Clause 6 of EN IEC 55014-2

<b>Criterion A:</b>	The apparatus shall continue to operate as intended during the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.
<b>Criterion B:</b>	The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however. No change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation and from what the user may reasonably expect from the apparatus if used as intended.
<b>Criterion C:</b>	Temporary loss of function is allowed, provided the function is self recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

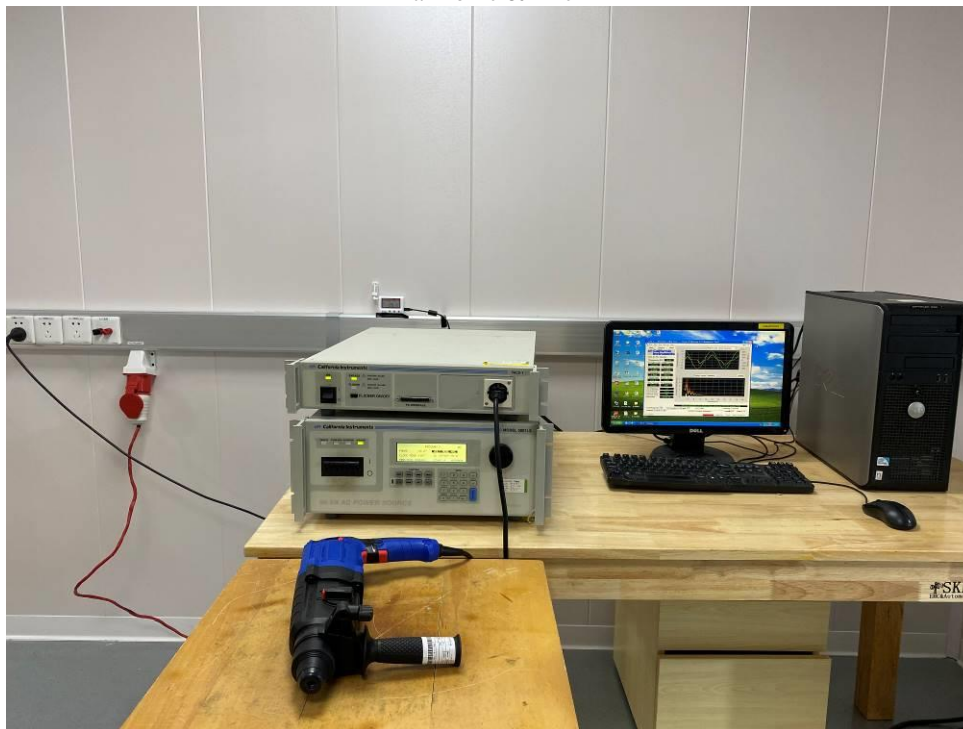
### 5.2 Classification of apparatus

<b>Category I:</b>	equipment containing no electronic control circuitry.
<b>Category II:</b>	mains operated equipment containing electronic control circuitry with no clock frequency higher than 15 MHz.
<b>Category III:</b>	battery operated equipment not included in Category I. This category also includes equipment provided with rechargeable batteries, which can be charged, directly or indirectly, from the mains. Accordingly, this equipment shall also be subjected to the test requirements for mains operated equipment but only when testing the charging function If the equipment can operate its intended functions when connected, directly or indirectly to the mains, then it is not battery operated. Accordingly, it shall be classified as Category II, Category IV or Category V, as applicable, and subjected to the corresponding test requirements when in mains operation.
<b>Category IV:</b>	mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 15 MHz but lower than or equal to 200 MHz.
<b>Category V:</b>	mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 200 MHz.

The EUT belongs to Category I, which deemed to comply with the immunity requirements without testing.

## 6 Test Setup Photos

Harmonic & Flick



Conducted Emission



Disturbance power





7 EUT Photos

Photo 1.  
Description: Overall view



Photo 2.  
Description: Top view



Photo 3.  
Description: Bottom view



Photo 4.  
Description: Side view





Photo 5.  
Description: Side view



Photo 6.  
Description: Front view



Photo 7.  
Description: Rear view



Photo 8.  
Description: Air outlet view



Photo 9.  
Description: Air outlet view

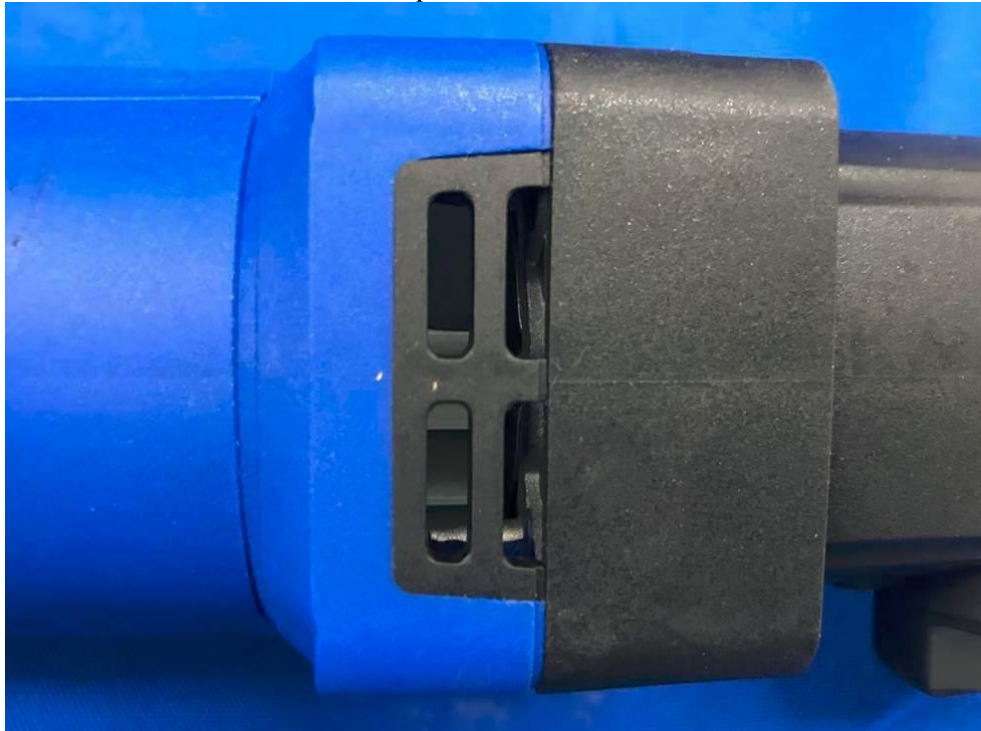


Photo 10.  
Description: Switch button and lock-on device view





Photo 11.

Description: Rotary direction adjustment view



Photo 12.

Description: Mode change-over switch



Photo 13  
Description: Cord guard view



Photo 14  
Description: Internal view





Photo 15

Description: Power cord anchorage view



Photo 16

Description: Switch view



Photo 17

Description: X2 capacitor view (inside the switch box)



Photo 18

Description: Internal view for brush holder

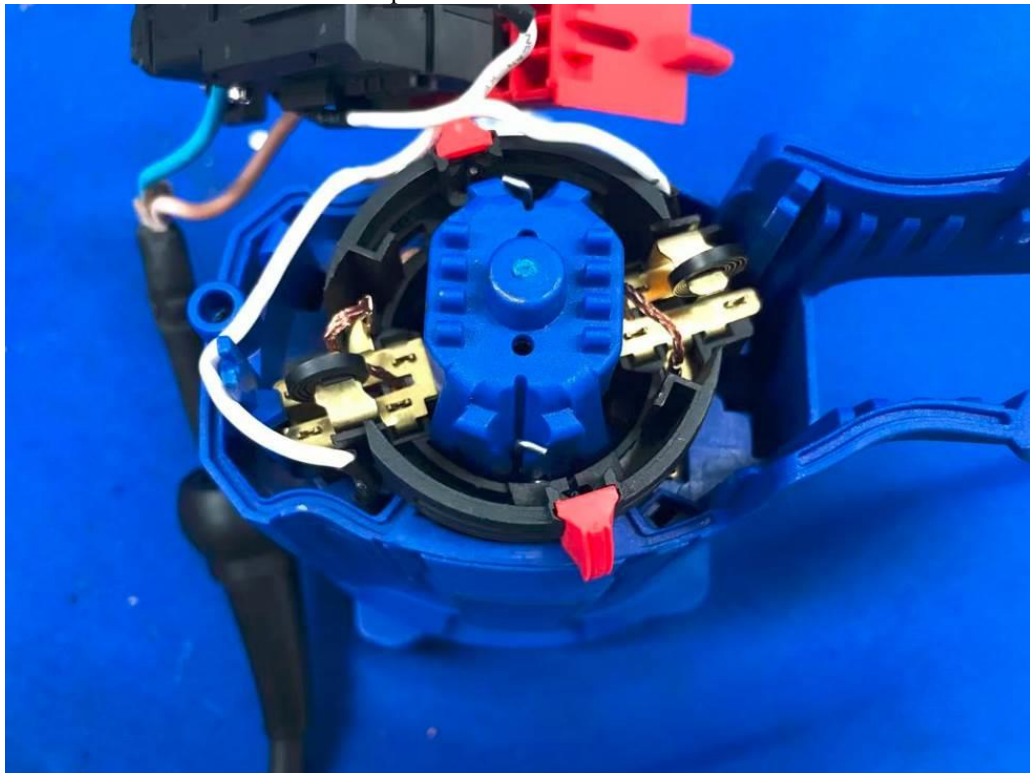




Photo 19  
Description: Brush holder view

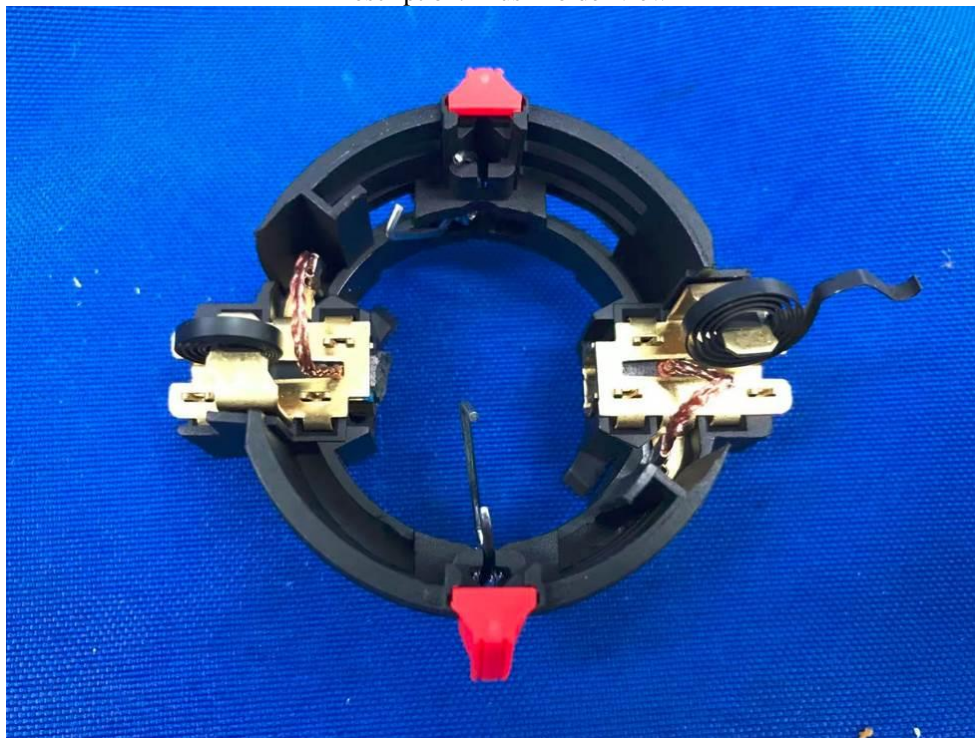


Photo 20  
Description: Internal view for stator

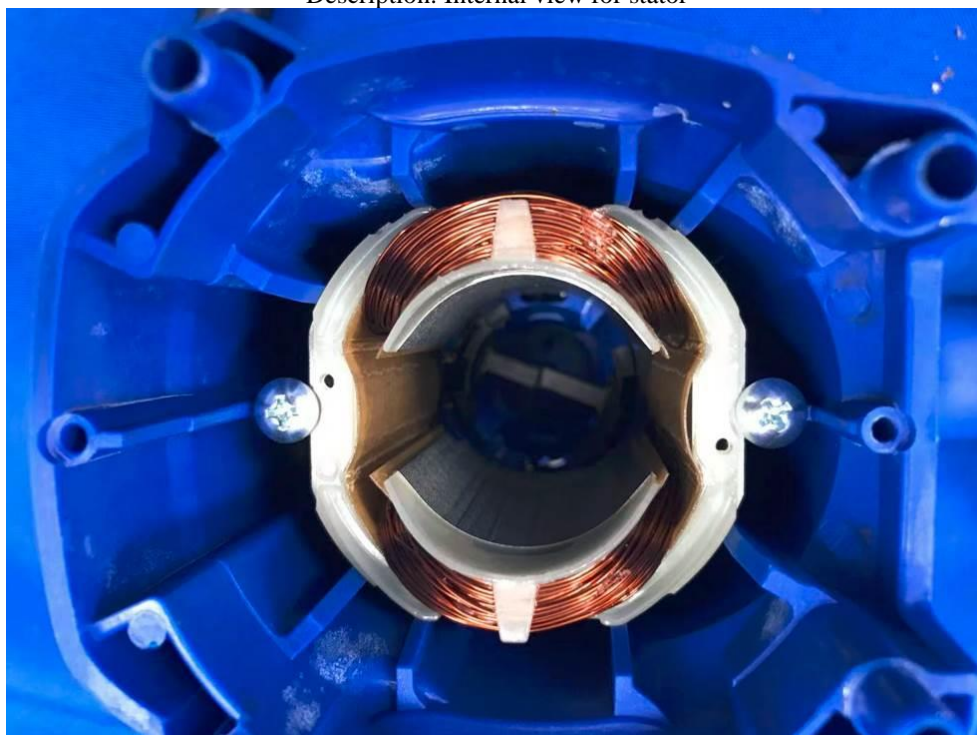




Photo 21

Description: Stator view

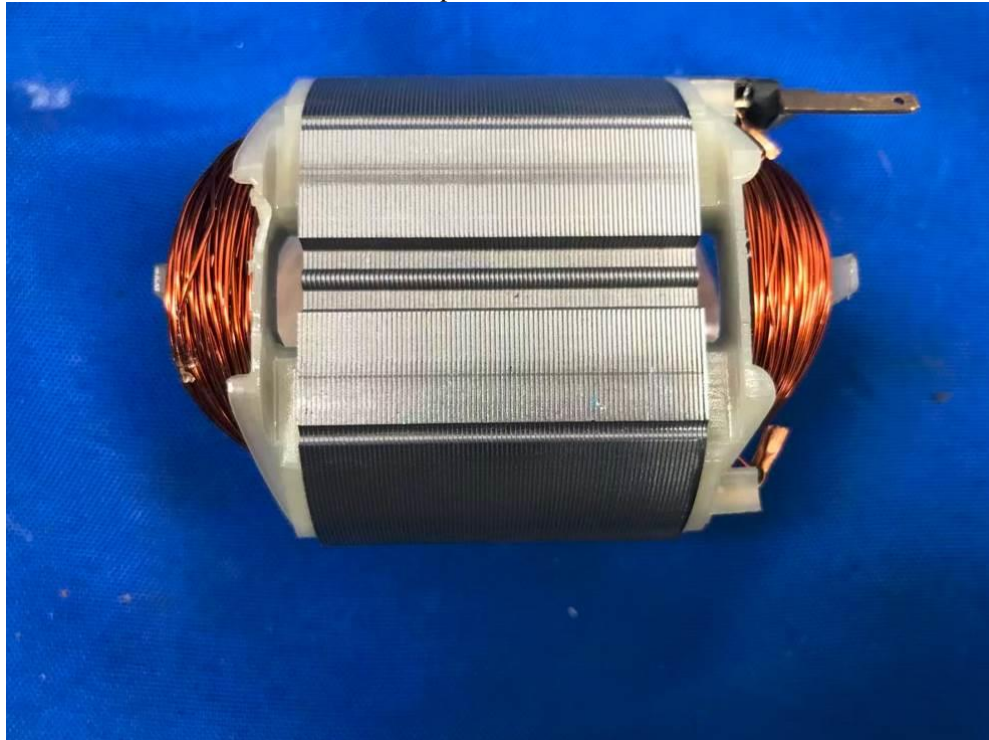


Photo 22

Description: Stator view

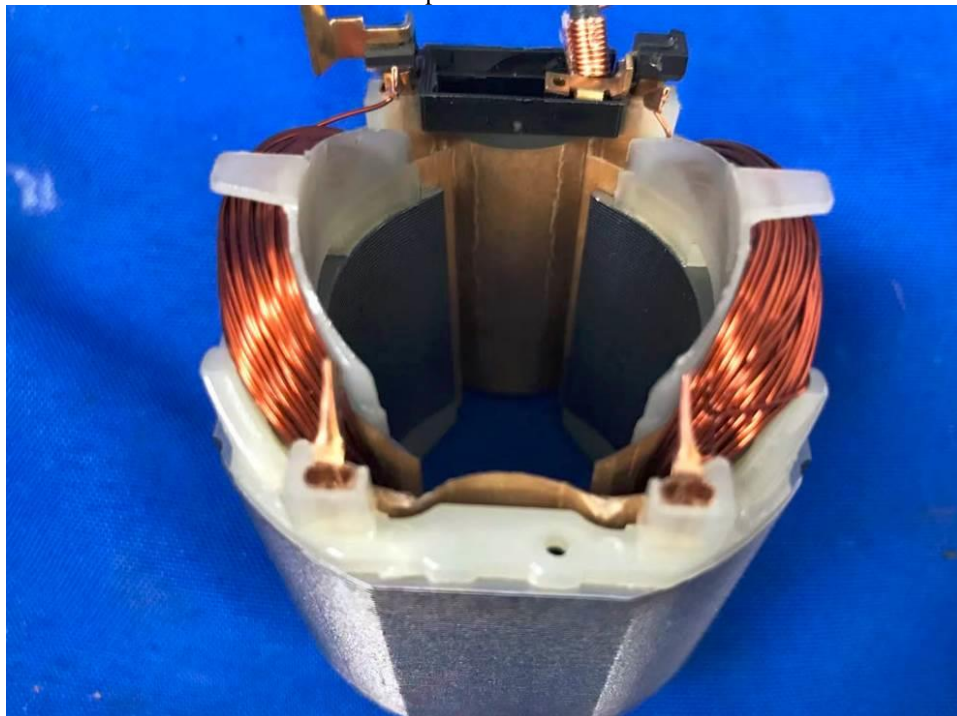


Photo 23

Description: Rotor view



Photo 24

Description: Rotor view

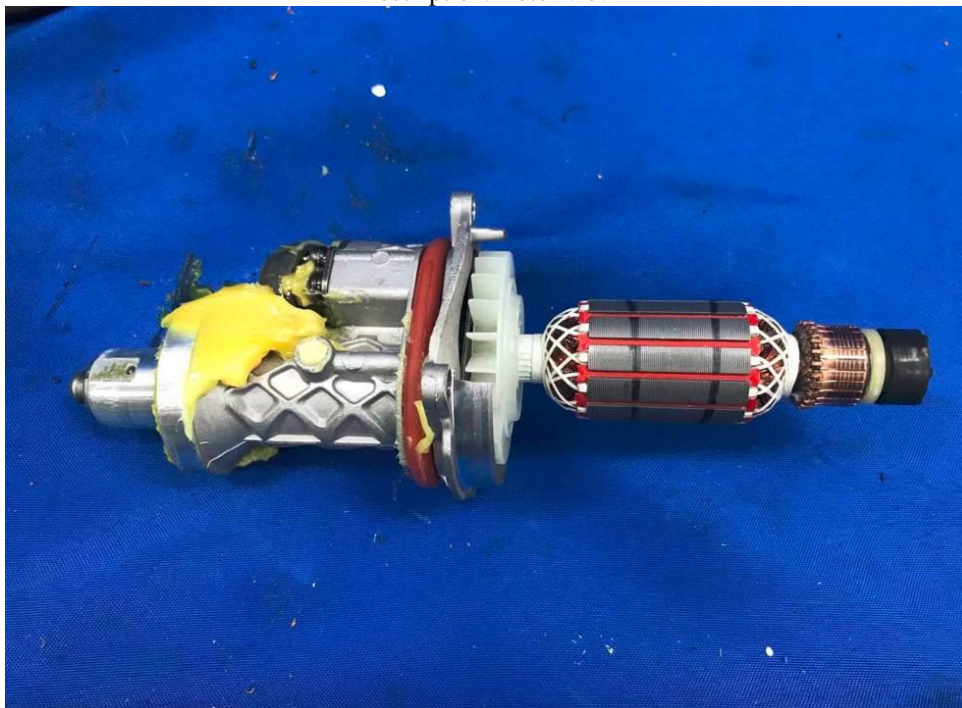




Photo 25

Description: Auxiliary handle view



Photo 26

Description: Attachment view

