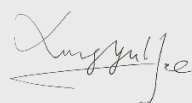



This report will not be used for social proof function in China market.

Test report No:
6065264.50

TEST REPORT

Electromagnetic Compatibility (EMC)

Identification of item tested	RING SAW
Trademark	AGP
Model and /or type reference	R13; RS-3300; 13R; RS13; 13RS; R33; 33R; RS33; 33RS; R22D; RD22
Ratings	220 V; 50-60 Hz; 3000 W; Class I 230-240 V; 50-60 Hz; 3200 W; Class I 110-120 V; 50-60 Hz; 2800 W; Class I
Test Laboratory / address	DEKRA Testing and Certification (Shanghai) Ltd. 3F #250 Jiangchangsan Road Building 16 Headquarter Economy Park Shibe Hi-Tech Park, Jing'an District Shanghai 200436 China
Applicant's name / address	LEE YEONG INDUSTRIAL CO., LTD. NO.2, KEJIA RD., DOULIU CITY, YUNLIN COUNGY, TAIWAN
Test method requested, standard	EN 55014-1:2017; EN 55014-2:2015; EN 61000-3-2:2014 EN 61000-3-3:2013
Verdict Summary	IN COMPLIANCE
Tested by (name / position & signature)	Xingyu He Project engineer 
Approved by (name / position & signature)	Zuyao Fan Project manager 
Date of issue	2019-10-23
Report template No	TRF_EN55014-1_EN55014-2_EMC02 V1.0

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in EN 55016-4-2 (CISPR 16-4-2), EN/IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

Uncertainties have been calculated according to the DEKRA internal document PROD-P-EMC-M22. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%. Refer to the Annex 1 for further information.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

<input checked="" type="checkbox"/> Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.			
<input type="checkbox"/> Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.			
Decimal separator used in this report	<input type="checkbox"/>	Comma (,)	<input checked="" type="checkbox"/> Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	:	Equipment Under Test
QP	:	Quasi-Peak
CAV	:	CISPR Average
AV	:	Average
CDN	:	Coupling Decoupling Network
SAC	:	Semi-Anechoic Chamber
OATS	:	Open Area Test Site
BW	:	Bandwidth
AM	:	Amplitude Modulation
PM	:	Pulse Modulation
HCP	:	Horizontal Coupling Plane
VCP	:	Vertical Coupling Plane
U_N	:	Nominal voltage

DOCUMENT HISTORY

Report nr.	Date	Description
6065264.50	2019-10-23	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the requirements of the stated standard(s)/test(s).

The test results presented in this report relate only to the object tested.

According to the declaration from manufacturer, all types are same as R13 only the models' name are different.

Therefore, the EUT R13 was selected for the full tests and the results are also representative for the others

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item	See page 1
Model / Type number	See page 1
Serial number	N/A
Trademark	AGP
Manufacturer	LEE YEONG INDUSTRIAL CO., LTD. NO.2, KEJIA RD., DOULIU CITY, YUNLIN COUNGY, TAIWAN
Factory	LEE YEONG INDUSTRIAL CO., LTD. NO.2, KEJIA RD., DOULIU CITY, YUNLIN COUNGY, TAIWAN

Clock frequencies	Not provided
Other parameters	Not provided
Software version	Not provided
Hardware version	Not provided
Mounting position	<input checked="" type="checkbox"/> Table top equipment
	<input type="checkbox"/> Wall/Ceiling mounted equipment
	<input type="checkbox"/> Floor standing equipment
	<input checked="" type="checkbox"/> Hand-held equipment
	<input type="checkbox"/> Other:

Intended use of the Equipment Under Test (EUT)	
The apparatus as supplied for the test are RING SAW, intended for residential and commercial use. These products have electronic control unit.	

No	Module/parts of test item	Type	Manufacturer
	N/A		

No	Documents as provided by the applicant - Description	File name	Issue date
	N/A		

Modifications to the test item during testing	<input checked="" type="checkbox"/>	N/A	<input type="checkbox"/>	Refer to the chapter 6
-----------------------------------------------------	-------------------------------------	-----	--------------------------	------------------------

Copy of marking plate:
N/A

1.2 Environment

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

<input checked="" type="checkbox"/>	Residential (domestic) environment.
<input checked="" type="checkbox"/>	Commercial and light-industrial environment.
<input type="checkbox"/>	Industrial environment.

1.3 Test data

Location	DEKRA Testing and Certification (Suzhou) Co., Ltd.
Address	No. 99, Hongye Road, Suzhou Industrial Park, Suzhou, 215006, P. R. China.
Date of receipt of test item	2019-10
Date(s) of performance of tests	2019-10
Supervised by	Zuyao Fan

1.4 Classification according to EN 55014-2

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

<input checked="" type="checkbox"/>	<p>Category I: Apparatus containing no electronic control circuitry.</p> <p><u>Examples:</u> Motor operated appliances, lighting toys, track sets without electronic control units, tools, heating appliances, UV and IR radiators and apparatus containing components such as electromechanical switches and thermostats.</p> <p>Electric circuits consisting of passive components (such as radio interference suppression capacitors or inductors, mains transformers and mains frequency rectifiers) are not considered to be electronic control circuitry.</p>
<input type="checkbox"/>	<p>Category II: Transformer toys, dual supply toys, mains powered motor operated appliances, tools, heating appliances and similar electric apparatus (for example – UV radiators, IR radiators and microwave ovens) containing electronic control circuitry with no internal clock frequency or oscillator frequency higher than 15 MHz.</p>
<input type="checkbox"/>	<p>Category III: Battery powered apparatus (with built-in batteries or external batteries), which in normal use is not connected to the mains, containing an electronic control circuitry with no internal clock frequency or oscillator frequency higher than 15 MHz.</p>
<input type="checkbox"/>	<p>Category IV: All other apparatus covered by the scope of the EN 55014-2 standard.</p>
<p>Clock frequency: Fundamental frequency of any signal used in the device, excluding those which are solely used inside integrated circuits (IC).</p>	

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Operating mode	Operating mode description	Used for testing	
		Emission	Immunity
1	The EUT operates normally	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>
<u>Supplemental information:</u>			

2.2 Port(s) of the EUT

Port name and description	Connected to / Termination	Cable		
		Length used during test [m]	Attached during test	Shielded
AC mains input ports	AC mains	0.8	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
<u>Supplemental information:</u>				

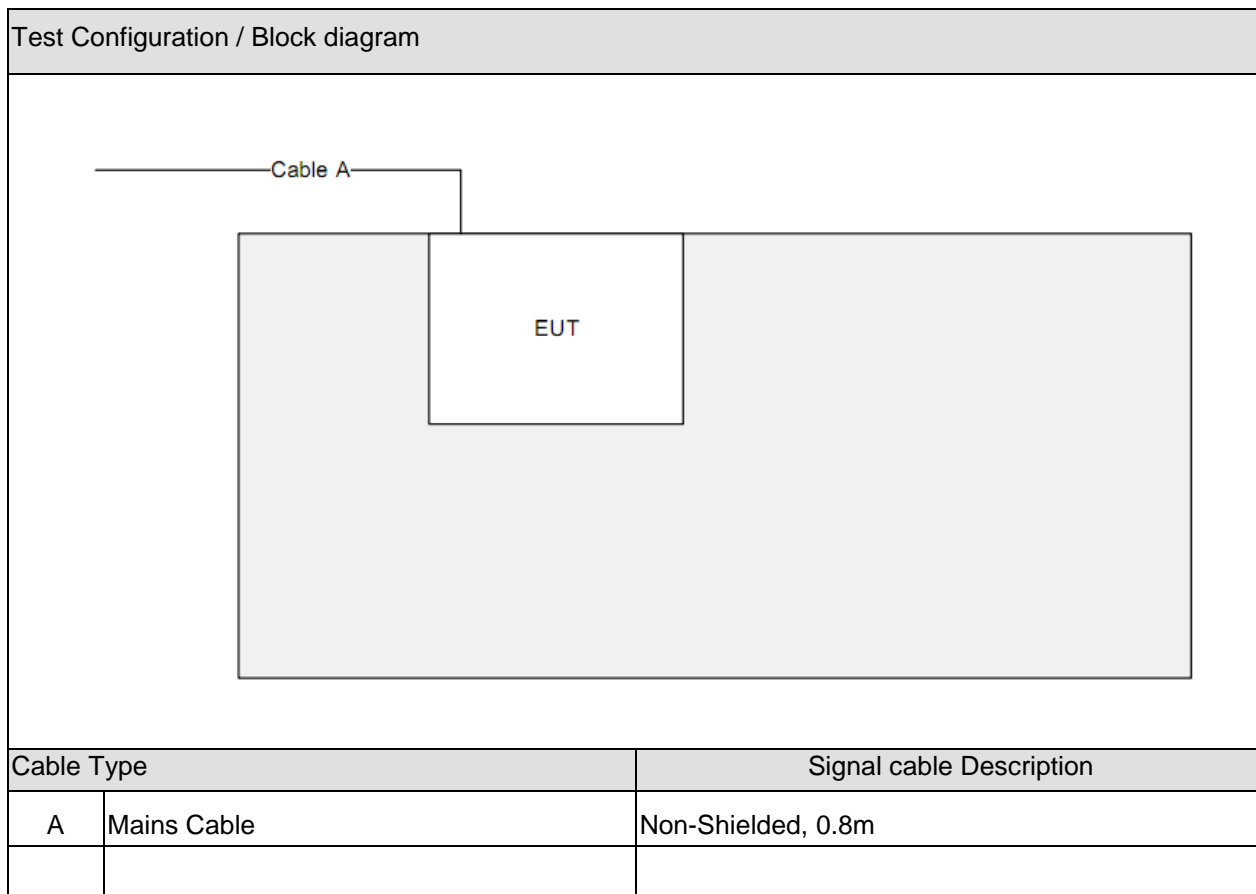
2.3 Support / Auxiliary equipment / unit / software for the EUT

The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment / unit / software	Type / Version	Manufacturer	Supplied by
N/A			Applicant
			DEKRA
<u>Supplemental information:</u>			

2.4 Test Configuration / Block diagram used for tests

The following test setup / configuration / block diagram has been used during the tests:



3 VERDICT SUMMARY SECTION

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

3.1 Standards

Standard	Year	Description
EN 55014-1	2017	Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission.
EN 55016-2-1	2014	Methods of measurement of disturbances and immunity - Conducted disturbance measurements.
EN 55016-2-2	2010	Methods of measurement of disturbances and immunity – Measurement of disturbance power.
EN 55016-2-3 +A1 +A2	2010 2010 2014	Methods of measurement of disturbances and immunity - Radiated disturbance measurements.
EN 61000-3-2	2014	Limits for harmonic current emissions (equipment input current ≤ 16 A per phase).
EN 61000-3-3	2013	Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.
EN 55014-2	2015 ¹⁾	Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard.
EN 61000-4-2	2009	Electrostatic discharge immunity test.
EN 61000-4-3 +A1 +A2	2006 2008 2010	Radiated, radio-frequency, electromagnetic field immunity test.
EN 61000-4-4	2012	Electrical fast transient/burst immunity test.
EN 61000-4-5	2014	Surge immunity test.
EN 61000-4-6	2014	Immunity to conducted disturbances, induced by radio-frequency fields.
EN 61000-4-11	2004	Voltage dips, short interruptions and voltage variations immunity tests.

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards:
 N/A.

3.3 Overview of results

EMISSION TESTS – EN 55014-1			
Requirement – Test case	Basic standard(s)	Verdict	Remark
Conducted disturbance voltage at mains terminals (150 KHz – 30 MHz)	EN 55016-2-1	PASS	See 2)
Conducted disturbance voltage at load terminals (150 KHz – 30 MHz)	EN 55016-2-1	N/A	---
Conducted disturbance voltage at additional terminals (150 KHz – 30 MHz)	EN 55016-2-1	N/A	---
Disturbance power (30 MHz to 300 MHz)	EN 55016-2-2	PASS	---
Radiated electromagnetic disturbances (30 - 1000 MHz)	EN 55016-2-3	N/A	---
Discontinuous disturbance (clicks) on AC power leads	EN 55014-1	N/A	See 1)
<u>Supplementary information:</u>			
1) Exemptions from click measurements applicable (clause 4.2.3).			
2) Not applicable because no test requirements have been specified for DC/battery powered apparatus.			
3) According to clause 4.1.2.3.2 procedure (a) of the EN 55014-1 standard the EUT is deemed to comply in the frequency range from 300 MHz to 1000 MHz without further measurements.			

EMISSION TESTS – EN 61000-3-2, EN 61000-3-3			
Requirement – Test case	Basic standard(s)	Verdict	Remark
Control principle shall be allowed for the application according to the clause 6.1	EN 61000-3-2	N/A	---
Harmonic current emissions	EN 61000-3-2	PASS	---
Voltage changes, voltage fluctuations and flicker	EN 61000-3-3	PASS	---
<u>Supplementary information:</u>			
1) Since the rated power of the EUT is less than 75 Watts harmonics test is not applicable (clause 7, Figure 1).			
2) The EUT is regarded as a professional equipment with a total rated power greater than 1 KW. The test is not applicable.			

IMMUNITY TESTS – EN 55014-2			
Requirement – Test case	Basic standard(s)	Verdict	Remark
Electrostatic discharge	EN 61000-4-2	N/A	---
Radio-frequency electromagnetic fields	EN 61000-4-3	N/A	---
Fast transients	EN 61000-4-4	N/A	---
Surge transient	EN 61000-4-5	N/A	---
Injected currents (radio-frequency common mode)	EN 61000-4-6	N/A	---
Voltage dips and short interruptions	EN 61000-4-11	N/A	---
<u>Supplementary information:</u>			
1) Not applicable because no test requirements have been specified for DC/battery powered apparatus.			
2) The equipment is classified as category 1 equipment according to EN 55014-2; no immunity tests are applicable.			

4 EMISSION TEST RESULTS

4.1	Conducted disturbance voltage - Mains	VERDICT: PASS
------------	----------------------------------------------	----------------------

Standard	EN 55014-1
Basic standard	EN 55016-2-1

Limits - Tools

Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾	IF BW	Detector(s)
0,15 - 0,35	66 - 56 ²⁾	59 - 46 ²⁾	9 KHz	QP, CAV
0,35 - 5,0	56	46	9 KHz	QP, CAV
5,0 - 30	60	50	9 KHz	QP, CAV

¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

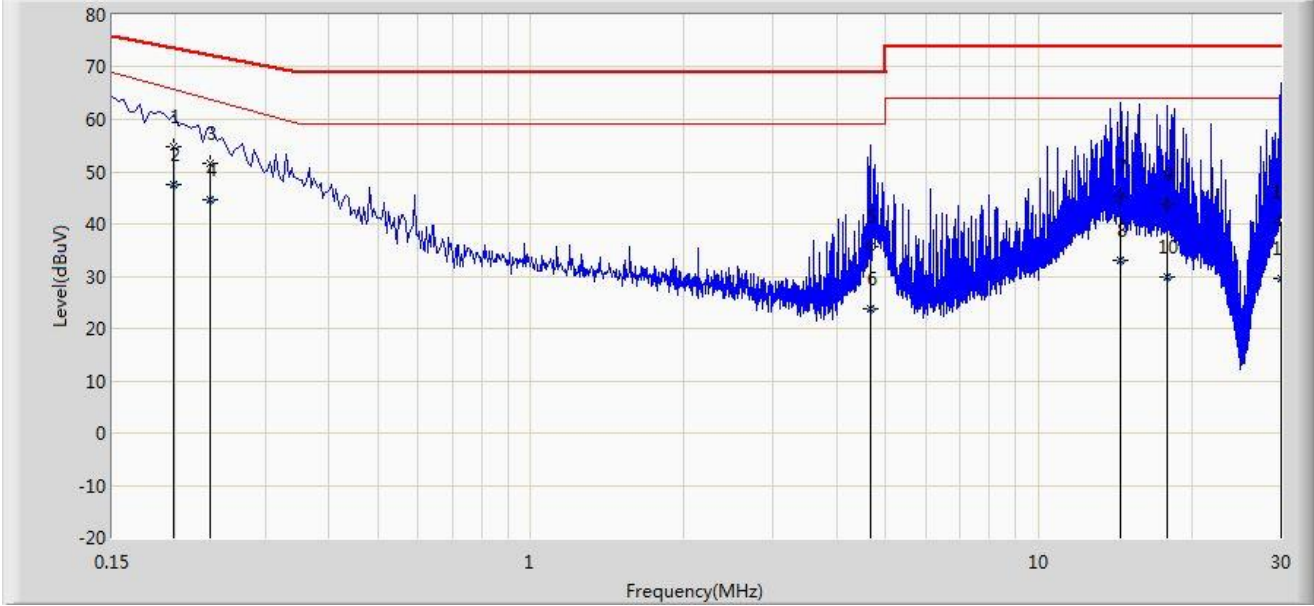
<input type="checkbox"/>	Rated power below 700 W	Limits as above
<input type="checkbox"/>	Rated power between 700 and 1000 W	Limits +4 dB
<input checked="" type="checkbox"/>	Rated power above 1000 W	Limits +10 dB

Performed measurements

Tested terminal(s) / port	<input checked="" type="checkbox"/>	AC mains input power	<input checked="" type="checkbox"/>	N	<input checked="" type="checkbox"/>	L1	<input type="checkbox"/>	L2	<input type="checkbox"/>	L3
	<input type="checkbox"/>	DC mains input power	<input type="checkbox"/>	Positive (+)	<input type="checkbox"/>	Negative (-)				
Voltage – Mains [V]	230 V, 120 V									
Frequency – Mains [Hz]	50 Hz									
Test method applied	<input checked="" type="checkbox"/>	Artificial mains network								
	<input type="checkbox"/>	Voltage probe								
Test setup	<input type="checkbox"/>	Table top	<input checked="" type="checkbox"/>	Artificial hand applied						
	<input type="checkbox"/>	Floor standing	<input type="checkbox"/>	Other:						
	Refer to the Annex 3 for test setup photo(s).									
Operating mode(s) used	Mode 1									
Remark	---									

See next page.

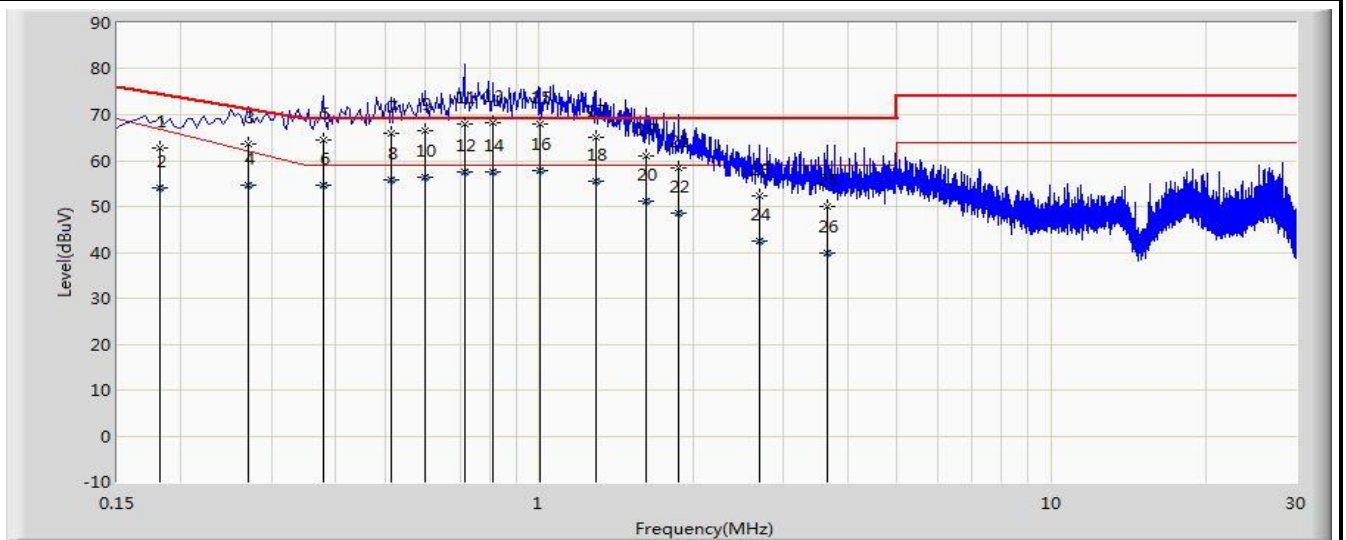
Measurement data		<input checked="" type="checkbox"/>	Line	<input type="checkbox"/>	Neutral					
Operating mode / voltage / frequency used during the test			Mode 1 / 230 Vac / 50 Hz							
Port under test			AC mains input port							
No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type	
1	0.178	56.434	56.233	-18.153	74.586	0.172	0.028	0.000	QP	
2	0.178	48.914	48.714	-18.066	66.980	0.172	0.028	0.000	AV	
3	0.222	52.847	52.634	-19.914	72.761	0.184	0.029	0.000	QP	
4	0.222	45.590	45.376	-18.783	64.373	0.184	0.029	0.000	AV	
5	4.614	36.885	36.491	-32.115	69.000	0.257	0.137	0.000	QP	
6	4.614	24.518	24.125	-34.482	59.000	0.257	0.137	0.000	AV	
7	14.382	44.131	43.383	-29.869	74.000	0.505	0.243	0.000	QP	
8	14.382	33.346	32.598	-30.654	64.000	0.505	0.243	0.000	AV	
9	15.854	43.984	43.230	-30.016	74.000	0.498	0.256	0.000	QP	
10	15.854	33.621	32.867	-30.379	64.000	0.498	0.256	0.000	AV	
11	18.258	40.808	40.068	-33.192	74.000	0.465	0.276	0.000	QP	
12	18.258	30.400	29.660	-33.600	64.000	0.465	0.276	0.000	AV	
Remark	The given graph is the combination of max-hold function									

Measurement data		<input type="checkbox"/>	Line		<input checked="" type="checkbox"/>	Neutral			
Operating mode / voltage / frequency used during the test					Mode 1 / 230 Vac / 50 Hz				
Port under test					AC mains input port				
									
No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	0.198	54.785	54.722	-18.921	73.706	0.034	0.029	0.000	QP
2	0.198	47.543	47.480	-18.180	65.723	0.034	0.029	0.000	AV
3	0.234	51.723	51.655	-20.603	72.326	0.039	0.030	0.000	QP
4	0.234	44.509	44.440	-19.243	63.752	0.039	0.030	0.000	AV
5	4.662	35.761	35.394	-33.239	69.000	0.229	0.138	0.000	QP
6	4.662	23.816	23.449	-35.184	59.000	0.229	0.138	0.000	AV
7	14.498	45.107	44.645	-28.893	74.000	0.218	0.244	0.000	QP
8	14.498	32.906	32.444	-31.094	64.000	0.218	0.244	0.000	AV
9	17.938	43.705	43.087	-30.295	74.000	0.345	0.273	0.000	QP
10	17.938	29.991	29.374	-34.009	64.000	0.345	0.273	0.000	AV
11	29.938	40.248	39.545	-33.752	74.000	0.341	0.362	0.000	QP
12	29.938	29.669	28.966	-34.331	64.000	0.341	0.362	0.000	AV
Remark	The given graph is the combination of max-hold function								

Measurement data	<input checked="" type="checkbox"/>	Line	<input type="checkbox"/>	Neutral
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Operating mode / voltage / frequency used during the test Mode 1 / 120 Vac / 50 Hz

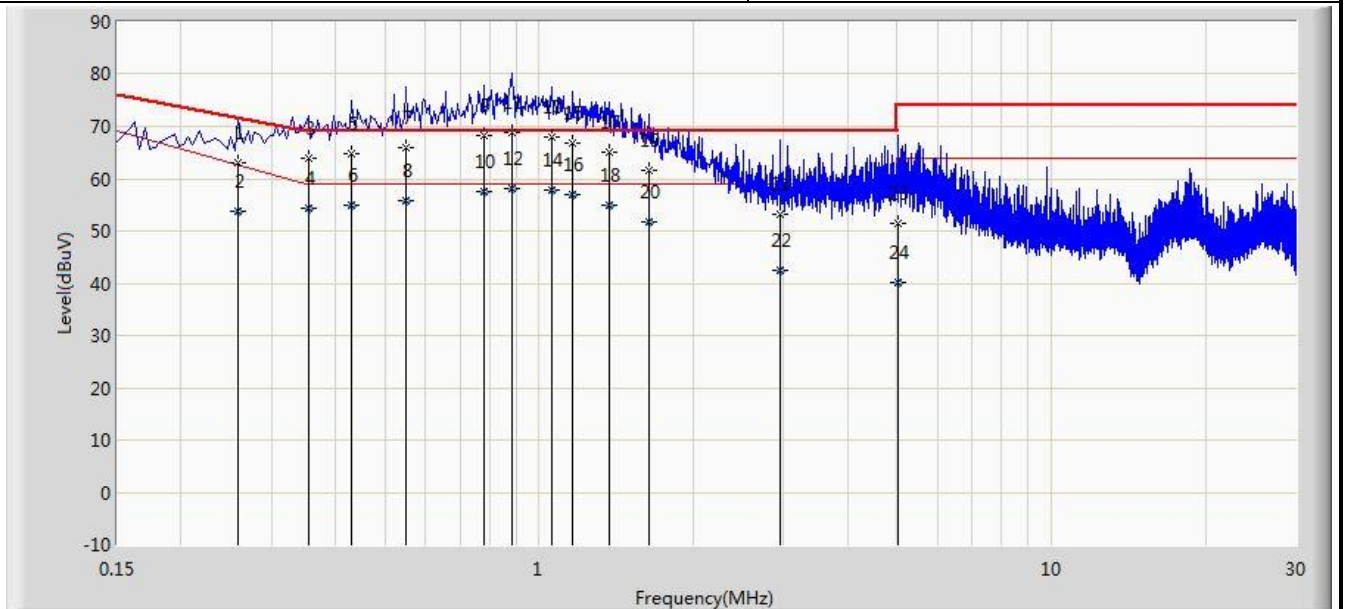
Port under test AC mains input port



No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	0.182	62.810	62.606	-11.593	74.402	0.175	0.028	0.000	QP
2	0.182	53.988	53.785	-12.729	66.718	0.175	0.028	0.000	AV
3	0.270	63.744	63.540	-7.400	71.144	0.171	0.033	0.000	QP
4	0.270	54.615	54.411	-7.447	62.063	0.171	0.033	0.000	AV
5	0.378	64.521	64.341	-4.479	69.000	0.143	0.037	0.000	QP
6	0.378	54.675	54.495	-4.325	59.000	0.143	0.037	0.000	AV
7	0.514	66.079	65.923	-2.921	69.000	0.111	0.045	0.000	QP
8	0.514	55.898	55.742	-3.102	59.000	0.111	0.045	0.000	AV
9	0.598	66.386	66.226	-2.614	69.000	0.115	0.046	0.000	QP
10	0.598	56.243	56.083	-2.757	59.000	0.115	0.046	0.000	AV
11	0.714	68.036	67.866	-0.964	69.000	0.119	0.050	0.000	QP
12	0.714	57.499	57.329	-1.501	59.000	0.119	0.050	0.000	AV
13	0.814	68.265	68.096	-0.735	69.000	0.116	0.053	0.000	QP
14	0.814	57.669	57.499	-1.331	59.000	0.116	0.053	0.000	AV
15	1.006	68.042	67.871	-0.958	69.000	0.110	0.061	0.000	QP
16	1.006	57.741	57.570	-1.259	59.000	0.110	0.061	0.000	AV
17	1.294	65.030	64.855	-3.970	69.000	0.107	0.068	0.000	QP
18	1.294	55.430	55.255	-3.570	59.000	0.107	0.068	0.000	AV
19	1.622	60.972	60.792	-8.028	69.000	0.104	0.077	0.000	QP
20	1.622	51.297	51.116	-7.703	59.000	0.104	0.077	0.000	AV
21	1.870	58.342	58.158	-10.658	69.000	0.101	0.084	0.000	QP
22	1.870	48.459	48.274	-10.541	59.000	0.101	0.084	0.000	AV
23	2.698	52.348	52.104	-16.652	69.000	0.142	0.102	0.000	QP
24	2.698	42.534	42.290	-16.466	59.000	0.142	0.102	0.000	AV
25	3.646	50.140	49.821	-18.860	69.000	0.199	0.121	0.000	QP
26	3.646	39.808	39.488	-19.192	59.000	0.199	0.121	0.000	AV

Remark The given graph is the combination of max-hold function

Measurement data	<input type="checkbox"/>	Line	<input checked="" type="checkbox"/>	Neutral
Operating mode / voltage / frequency used during the test		Mode 1 /120 Vac / 50 Hz		
Port under test		AC mains input port		



No	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	0.258	63.071	62.994	-8.448	71.520	0.045	0.032	0.000	QP
2	0.258	53.654	53.576	-8.946	62.599	0.045	0.032	0.000	AV
3	0.354	63.964	63.857	-5.036	69.000	0.071	0.036	0.000	QP
4	0.354	54.448	54.341	-4.552	59.000	0.071	0.036	0.000	AV
5	0.430	64.811	64.680	-4.189	69.000	0.091	0.040	0.000	QP
6	0.430	55.071	54.939	-3.929	59.000	0.091	0.040	0.000	AV
7	0.550	65.916	65.760	-3.084	69.000	0.112	0.044	0.000	QP
8	0.550	55.803	55.646	-3.197	59.000	0.112	0.044	0.000	AV
9	0.778	68.260	68.091	-0.740	69.000	0.117	0.052	0.000	QP
10	0.778	57.680	57.510	-1.320	59.000	0.117	0.052	0.000	AV
11	0.886	68.757	68.588	-0.243	69.000	0.114	0.055	0.000	QP
12	0.886	58.137	57.968	-0.863	59.000	0.114	0.055	0.000	AV
13	1.058	67.861	67.687	-1.139	69.000	0.112	0.061	0.000	QP
14	1.058	57.814	57.641	-1.186	59.000	0.112	0.061	0.000	AV
15	1.162	66.841	66.662	-2.159	69.000	0.114	0.064	0.000	QP
16	1.162	57.092	56.914	-1.908	59.000	0.114	0.064	0.000	AV
17	1.366	65.019	64.828	-3.981	69.000	0.121	0.070	0.000	QP
18	1.366	54.998	54.807	-4.002	59.000	0.121	0.070	0.000	AV
19	1.642	61.626	61.419	-7.374	69.000	0.129	0.078	0.000	QP
20	1.642	51.652	51.445	-7.348	59.000	0.129	0.078	0.000	AV
21	2.962	53.141	52.860	-15.859	69.000	0.172	0.108	0.000	QP
22	2.962	42.345	42.065	-16.655	59.000	0.172	0.108	0.000	AV
23	5.014	51.319	50.932	-22.681	74.000	0.240	0.147	0.000	QP
24	5.014	40.218	39.831	-23.782	64.000	0.240	0.147	0.000	AV

Remark: The given graph is the combination of max-hold function

4.2 Conducted disturbance voltage– Load terminals	VERDICT: N/A
----------------------------------------------------------	---------------------

Standard	EN 55014-1
Basic standard	EN 55016-2-1

Limits

Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾	IF BW	Detector(s)
0,15 - 0,50	80	70	9 KHz	QP, CAV
5,0 - 30	74	64	9 KHz	QP, CAV

¹⁾ At the transition frequency, the lower limit applies.

Performed measurements

Port(s) / Terminal(s) under test	
<input type="checkbox"/> (please write the name of the port under test)	<input type="checkbox"/> Other:
<input type="checkbox"/> Other:	<input type="checkbox"/> Other:
Voltage — Mains [V]	(Please write the voltage/voltages used for testing)
Frequency — Mains [Hz]	(Please write the frequency/frequencies used for testing)
Test method applied	<input type="checkbox"/> Voltage probe
	<input type="checkbox"/> ISN — Impedance Stabilisation Network
	<input type="checkbox"/> CDN according to EN / IEC 61000-4-6
	<input type="checkbox"/> Current probe
	<input type="checkbox"/> Artificial mains network
Test setup	<input type="checkbox"/> Table top <input type="checkbox"/> Artificial hand applied
	<input type="checkbox"/> Floor standing <input type="checkbox"/> Other:
	Refer to the Annex 3 for test setup photo(s).
Operating mode(s) used	
Remark	---

4.3 Conducted disturbance voltage– Additional terminals	VERDICT: N/A
----------------------------------------------------------------	---------------------

Standard	EN 55014-1
Basic standard	EN 55016-2-1

Limits

Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾	Limit: AV [dB(μV) ¹⁾	IF BW	Detector(s)
0,15 - 0,50	80	70	9 KHz	QP, CAV
5,0 - 30	74	64	9 KHz	QP, CAV

¹⁾ At the transition frequency, the lower limit applies.

Performed measurements

Port(s) / Terminal(s) under test				
<input type="checkbox"/>	(please write the name of the port under test)	<input type="checkbox"/>	Other:	
<input type="checkbox"/>	Other:	<input type="checkbox"/>	Other:	
Voltage— Mains [V]		(Please write the voltage/voltages used for testing)		
Frequency— Mains [Hz]		(Please write the frequency/frequencies used for testing)		
Test method applied	<input type="checkbox"/>	GDN according to EN / IEC 61000-4-6		
	<input type="checkbox"/>	ISN— Impedance Stabilisation Network		
	<input type="checkbox"/>	Voltage probe		
	<input type="checkbox"/>	Current probe		
	<input type="checkbox"/>	Artificial mains network		
	<input type="checkbox"/>	Other:		
Test setup	<input type="checkbox"/>	Table top	<input type="checkbox"/>	Artificial hand applied
	<input type="checkbox"/>	Floor standing	<input type="checkbox"/>	Other:
	Refer to the Annex 3 for test setup photo(s).			
Operating mode(s) used		Please write the operating mode(s) used during testing		
Remark		---		

4.4 Disturbance power (30 MHz – 300 MHz)	VERDICT: PASS
-------------------------------------------------	----------------------

Standard	EN 55014-1
Basic standard	EN 55016-2-2

Limits - Tools

Frequency range [MHz]	Limit: QP [dB(pW)]	Limit: AV [dB(pW)]	IF BW	Detector(s)
30 - 300	45 – 55 ¹⁾	35 – 45 ¹⁾	120 KHz	QP, CAV
Margin				
200 - 300	0 – 10 ¹⁾	---	120 KHz	QP, CAV
¹⁾ The limit increases linearly with the frequency.				
<input type="checkbox"/>	Rated power below 700 W			Limits as above
<input type="checkbox"/>	Rated power between 700 and 1000 W			Limits +4 dB
<input checked="" type="checkbox"/>	Rated power above 1000 W			Limits +10 dB

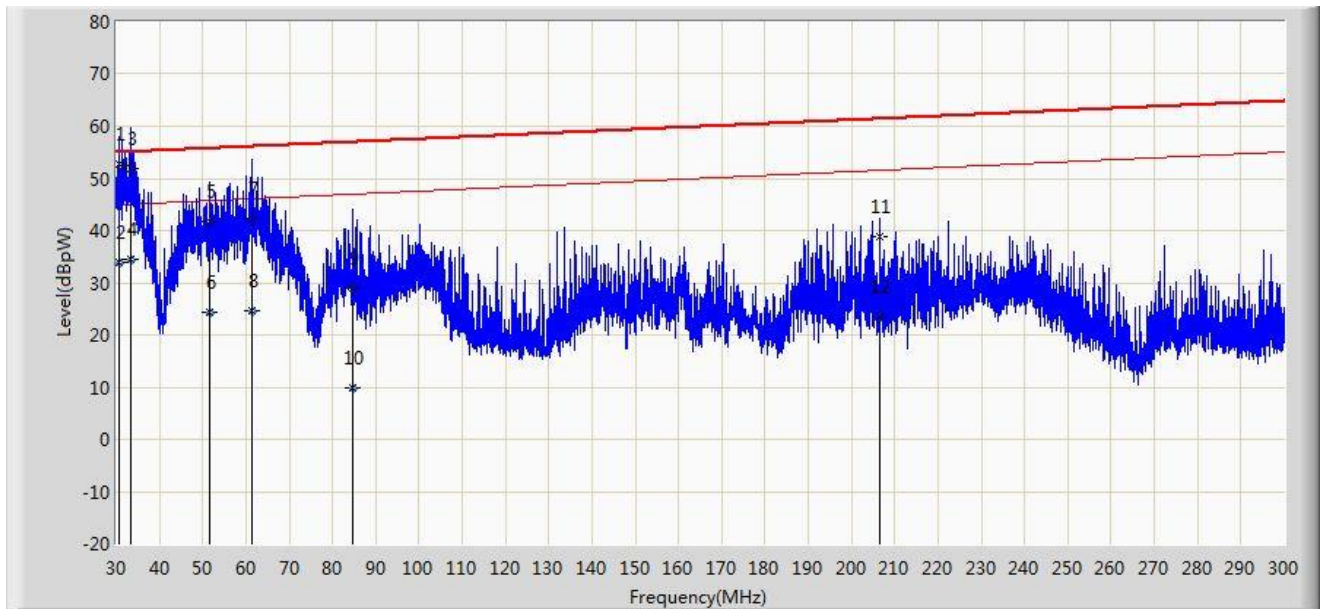
Performed measurements

Port(s) under test					
<input checked="" type="checkbox"/>	AC mains input power	<input type="checkbox"/>	Load	<input type="checkbox"/>	Control
<input type="checkbox"/>	Other:	<input type="checkbox"/>	Other:	<input type="checkbox"/>	Other:
Voltage – Mains [V]		230 V, 120 V			
Frequency – Mains [Hz]		50 Hz			
Test setup	<input checked="" type="checkbox"/>	Table top	<input type="checkbox"/>	Floor standing	
	<input type="checkbox"/>	Other:			
	Refer to the Annex 3 for test setup photo(s).				
Conditions for exemption from measurements above 300 MHz	<input checked="" type="checkbox"/>	"Limits" reduced by "Margin" applied and passed			
	<input checked="" type="checkbox"/>	Maximum clock frequency < 30 MHz			
Operating mode(s) used		Mode 1			
Remark		---			

See next page.

Measurement data	Port under test	AC input power
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Operating mode / voltage / frequency used during the test	Mode 1 / 230 Vac / 50 Hz
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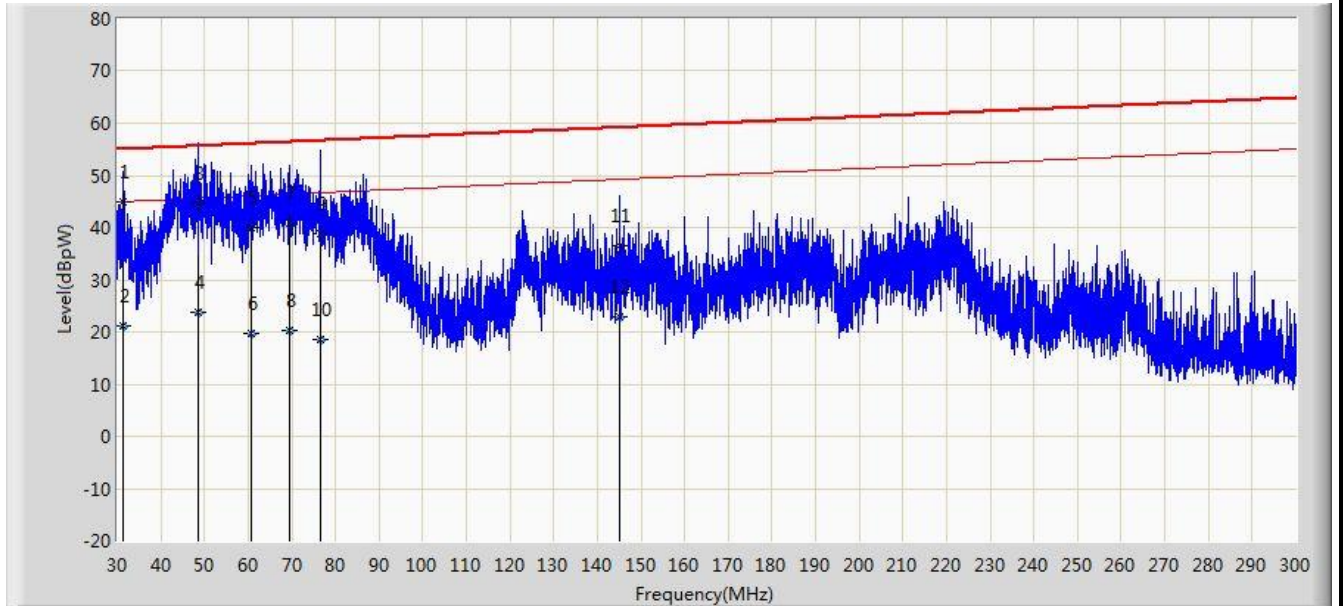
No	Frequency (MHz)	Measure Level (dBpW)	Reading Level (dBpW)	Over Limit (dB)	Limit (dBpW)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	30.760	52.741	27.500	-2.287	55.028	18.570	6.671	0.000	QP
2	30.760	33.941	8.700	-11.087	45.028	18.570	6.671	0.000	AV
3	33.280	51.748	26.600	-3.374	55.121	18.469	6.679	0.000	QP
4	33.280	34.448	9.300	-10.674	45.121	18.469	6.679	0.000	AV
5	51.520	41.722	17.800	-14.075	55.797	17.169	6.753	0.000	QP
6	51.520	24.322	0.400	-21.475	45.797	17.169	6.753	0.000	AV
7	61.480	42.329	18.500	-13.837	56.166	17.030	6.800	0.000	QP
8	61.480	24.629	0.800	-21.537	46.166	17.030	6.800	0.000	AV
9	84.840	29.006	6.100	-28.025	57.031	15.992	6.914	0.000	QP
10	84.840	9.806	-13.100	-37.225	47.031	15.992	6.914	0.000	AV
11	206.440	38.955	14.300	-22.579	61.535	16.929	7.726	0.000	QP
12	206.440	23.455	-1.200	-28.079	51.535	16.929	7.726	0.000	AV

Note:

- All Readings are performed with Quasi-Peak and/or average measurements as necessary.
- Measurement Level = Reading Level + Factor + Cable Loss.

Remark	According to clause 4.3.4.2: 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 reduced by the margin; 2) The maximum clock frequency shall be less than 30 MHz;
--------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Measurement data	Port under test	AC input power
Operating mode / voltage / frequency used during the test		Mode 1 / 120 Vac / 50 Hz



No	Frequency (MHz)	Measure Level (dBpW)	Reading Level (dBpW)	Over Limit (dB)	Limit (dBpW)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1	31.440	45.016	19.800	-10.038	55.053	18.542	6.673	0.000	QP
2	31.440	21.016	-4.200	-24.038	45.053	18.542	6.673	0.000	AV
3	48.400	44.540	20.600	-11.141	55.681	17.200	6.740	0.000	QP
4	48.400	23.640	-0.300	-22.041	45.681	17.200	6.740	0.000	AV
5	60.680	40.009	16.200	-16.127	56.136	17.014	6.795	0.000	QP
6	60.680	19.609	-4.200	-26.527	46.136	17.014	6.795	0.000	AV
7	69.560	40.953	17.200	-15.512	56.465	16.917	6.836	0.000	QP
8	69.560	20.153	-3.600	-26.312	46.465	16.917	6.836	0.000	AV
9	76.680	38.803	16.400	-17.926	56.729	15.535	6.869	0.000	QP
10	76.680	18.603	-3.800	-28.126	46.729	15.535	6.869	0.000	AV
11	145.040	36.569	13.200	-22.692	59.261	16.200	7.168	0.000	QP
12	145.040	22.769	-0.600	-26.492	49.261	16.200	7.168	0.000	AV

Note:

1. All Readings are performed with Quasi-Peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Factor + Cable Loss.

Remark	According to clause 4.3.4.2: 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 reduced by the margin; 2) The maximum clock frequency shall be less than 30 MHz;
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4.5	Radiated electromagnetic disturbances (30 – 1000 MHz)	VERDICT:	N/A
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Standard	EN 55014-1
Basic standard	EN 55016-2-3
Test method	Antenna method according to EN 55016-2-3 standard.

Limits

Frequency [MHz]	Limit: QP [dB(μV/m) ¹⁾			IF BW	Detector
	@3 m.	@5 m.	@10 m.		
30 - 230	40	36	30	120 KHz	QP
230 - 1000	47	43	37	120 KHz	QP

¹⁾ At the transition frequency, the lower limit applies.

Performed measurements

Port under test	Enclosure	
Voltage—Mains [V]	---	
Frequency—Mains [Hz]	---	
Test method applied	<input checked="" type="checkbox"/>	OATS or SAC with measurement distance [m]: 3 m.
	<input type="checkbox"/>	OATS or SAC with measurement distance [m]: 5 m.
	<input type="checkbox"/>	OATS or SAC with measurement distance [m]: 10 m.
Test setup	<input checked="" type="checkbox"/>	Equipment on a table of 80 cm height
	<input type="checkbox"/>	Equipment on the floor (insulated from ground plane)
	<input type="checkbox"/>	Other:
		Refer to the Annex 3 for test setup photo(s).
Operating mode(s) used	clockwise rotation, contrarotate	
Remark	---	

4.6 Discontinuous disturbance (clicks) on AC power leads	VERDICT: N/A
-----------------------------------------------------------------	---------------------

Standard	EN 55014-1		
Frequency [MHz]	Limit: QP [dB(μV)]	IF BW	Detector
0,15	66	9 KHz	Quasi-Peak (QP)
0,50	56	9 KHz	Quasi-Peak (QP)
1,40	56	9 KHz	Quasi-Peak (QP)
30,0	60	9 KHz	Quasi-Peak (QP)

Performed measurements

Scan range (0,9 – 1,1 U _N)	<input type="checkbox"/> 198 – 264 V _{AC}	<input type="checkbox"/> 207 – 253 V _{AC}	<input type="checkbox"/> –V _{AC}
Voltage – Mains [V]	(Please write the voltage/voltages used for testing)		
Frequency – Mains [Hz]	(Please write the frequency/frequencies used for testing)		
Test method applied	<input checked="" type="checkbox"/> Artificial mains network		
	<input type="checkbox"/> Voltage probe		
Test setup	<input type="checkbox"/> Table top	<input type="checkbox"/> Floor standing	
	<input type="checkbox"/> Other: Refer to the Annex 3 for test setup photo(s).		
Operating mode(s) used			
Remark	---		

Reason for not performing the test	<input type="checkbox"/>	The amplitudes of the observed disturbances were all below the limit for continuous disturbance, these are not considered to be clicks.
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Measurement results	<input type="checkbox"/> Neutral	<input type="checkbox"/> Line 1	<input type="checkbox"/> Line 2	<input type="checkbox"/> Line 3
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Frequency (MHz)	First Measurement: Determination of the limit L _q – Quasi-peak							
	Limit L (dBμV)	Number of short clicks	Number of long clicks	Number of clicks – N ₁	Time of meas. (min.)	Click rate N	Increased limit (dB)	Increased Limit L _q
0,15	66							
0,5	56							
1,4	56							
30	60							

<input type="checkbox"/>	The calculated click rate N is not more than 5 times per minute and all the clicks are classified as short (t ≤ 10 ms). Thus, the EUT is deemed to comply with the limits without any further measurement at an increased limit.
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Frequency (MHz)	Second measurement with Limit = L _q (Upper quartile method):			
	Limit L _q (dBμV)	Number of clicks – N ₂	Number of authorized clicks N ₂ ≤ N ₁ /4	Verdict
0,15				
0,5				
1,4				
30				

Supplementary information: ---

4.7 Harmonic current emissions	VERDICT: PASS
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Standard	EN 61000-3-2		
Exclusions (For these categories of equipment, limits are not specified in the EN 61000-3-2 standard)	<input type="checkbox"/>		Arc welding equipment intended for professional use.
	<input type="checkbox"/>		System(s) with nominal voltage(s) less than 220 V _{AC} (line-to-neutral).
	<input type="checkbox"/>		Equipment with rated power of ≤ 75 W (other than lighting equipment).
	<input type="checkbox"/>		Professional equipment with total rated power > 1 kW.
	<input type="checkbox"/>		Symmetrically controlled heating elements with a rated power ≥ 200 W.
	<input type="checkbox"/>		Independent dimmers for incandescent lamps with rated power ≤ 1 kW.

Classification			
<input type="checkbox"/>	Class A	All apparatus not classified as Class B, C or D	
<input checked="" type="checkbox"/>	Class B	Portable tools	
<input type="checkbox"/>	Class C	<input type="checkbox"/>	Lighting equipment with active input power > 25 W
		<input type="checkbox"/>	Lighting equipment with active input power ≤ 25 W (First requirement, Table 3 column 2)
		<input type="checkbox"/>	Lighting equipment with active input power ≤ 25 W (Second requirement)
<input type="checkbox"/>	Class D	Personal computers, television receivers	

Performed measurements

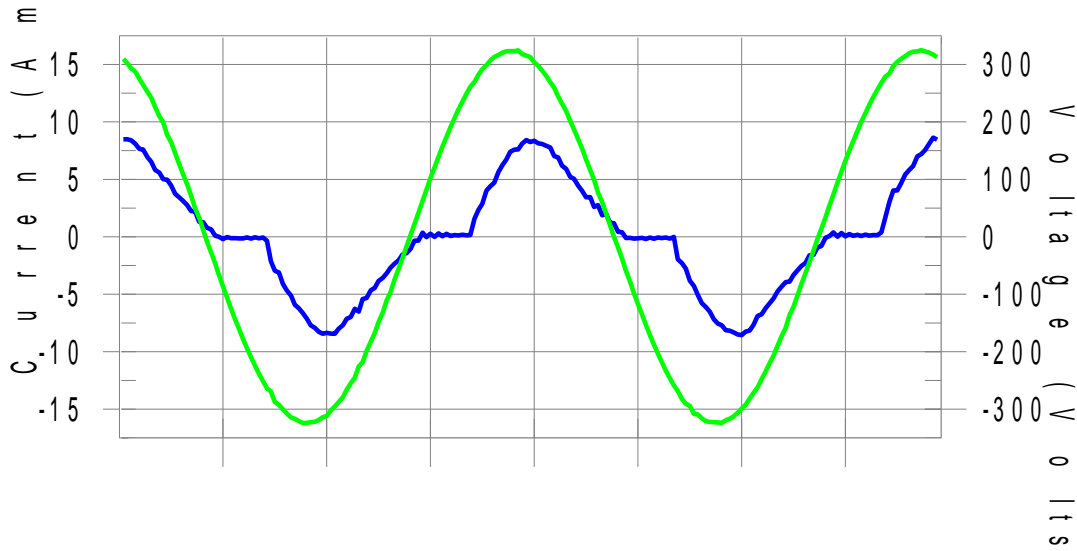
Port under test	AC mains power input					
Voltage – Mains [V]	230 V					
Frequency – Mains [Hz]	50 Hz					
Observation period	<input type="checkbox"/>	6.5 min.	<input checked="" type="checkbox"/>	2.5 min.	<input type="checkbox"/>	Other:
Version of measurement instrument standard used EN / IEC61000-4-7 (Cl. 7)	<input checked="" type="checkbox"/>	EN 61000-4-7:2002 + AM1:2009 (IEC 61000-4-7:2002+AM1:2008)				
	<input type="checkbox"/>	EN 61000-4-7:1991				
Control principle used in the EUT	<input checked="" type="checkbox"/>	Comply with the requirements of the Clause 6.1 (EN / IEC 61000-3-2).				
	<input type="checkbox"/>	Not comply with the requirements of the Clause 6.1 (EN / IEC 61000-3-2).				
Operating mode(s) used	Mode 1					
Remark	---					

See next page.

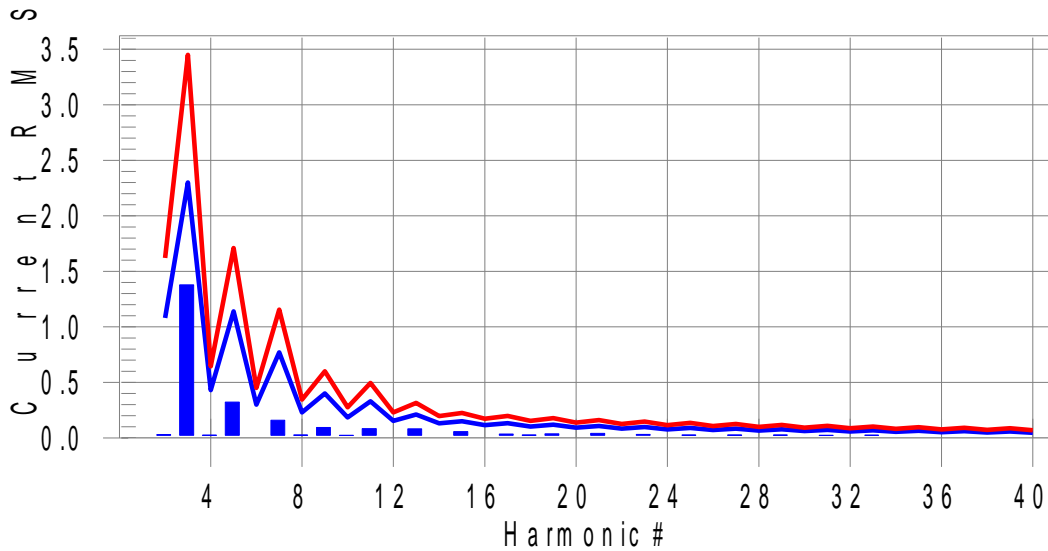
Measurement data	Port under test	AC input power
Operating mode / voltage / frequency used during the test		Mode 1 / 230 Vac / 50 Hz

Test Result: Pass **Source qualification: Normal**

Current & voltage waveforms



Harmonics and Class A limit line **European Limits**



Test result: Pass **Worst harmonics H3-40.2% of 150% limit, H3-59.9% of 100% limit.**

Measurement data		Port under test	AC input power				
Test Result: Pass		Source qualification: Normal					
THC(A): 1.439		I-THD(%): 30.9		POHC(A): 0.082		POHC Limit(A): 0.251	
Highest parameter values during test:							
V_RMS (Volts): 229.193				Frequency(Hz): 50.00			
I_Peak (Amps): 9.181				I_RMS (Amps): 4.888			
I_Fund (Amps): 4.661				Crest Factor: 1.895			
Power (Watts): 994.0				Power Factor: 0.889			
Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.029	1.080	2.7	0.031	1.620	1.9	Pass
3	1.378	2.300	59.9	1.386	3.450	40.2	Pass
4	0.024	0.430	5.6	0.028	0.645	4.4	Pass
5	0.322	1.140	28.3	0.330	1.710	19.3	Pass
6	0.018	0.300	5.9	0.021	0.450	4.6	Pass
7	0.161	0.770	20.9	0.171	1.155	14.8	Pass
8	0.027	0.230	11.6	0.032	0.345	9.4	Pass
9	0.094	0.400	23.4	0.100	0.600	16.6	Pass
10	0.024	0.184	12.8	0.030	0.276	10.9	Pass
11	0.083	0.330	25.1	0.091	0.495	18.3	Pass
12	0.016	0.153	10.8	0.019	0.230	8.4	Pass
13	0.082	0.210	38.8	0.089	0.315	28.3	Pass
14	0.014	0.131	10.7	0.018	0.197	8.9	Pass
15	0.057	0.150	37.7	0.062	0.225	27.6	Pass
16	0.015	0.115	13.2	0.020	0.173	11.5	Pass
17	0.035	0.132	26.8	0.041	0.198	20.6	Pass
18	0.027	0.102	26.3	0.034	0.153	21.9	Pass
19	0.037	0.118	31.2	0.043	0.178	24.2	Pass
20	0.017	0.092	18.2	0.020	0.138	14.6	Pass
21	0.041	0.107	38.3	0.046	0.161	28.3	Pass
22	0.015	0.084	18.5	0.018	0.125	14.7	Pass
23	0.033	0.098	33.2	0.036	0.147	24.7	Pass
24	0.012	0.077	16.2	0.014	0.115	12.4	Pass
25	0.025	0.090	27.7	0.029	0.135	21.2	Pass
26	0.011	0.071	15.0	0.012	0.107	11.1	Pass
27	0.025	0.083	30.2	0.029	0.125	23.1	Pass
28	0.010	0.066	15.0	0.011	0.099	11.5	Pass
29	0.026	0.078	32.9	0.029	0.116	24.5	Pass
30	0.010	0.061	16.1	0.011	0.092	12.3	Pass
31	0.024	0.073	32.7	0.027	0.109	24.7	Pass
32	0.010	0.058	17.4	0.012	0.086	14.2	Pass
33	0.025	0.068	36.0	0.032	0.102	30.8	Pass
34	0.010	0.054	18.7	0.014	0.081	17.0	Pass
35	0.017	0.064	27.2	0.021	0.096	22.0	Pass
36	0.009	0.051	18.5	0.013	0.077	16.4	Pass
37	0.018	0.061	29.0	0.021	0.091	22.9	Pass
38	0.010	0.048	20.5	0.011	0.073	15.5	Pass
39	0.017	0.058	28.9	0.020	0.087	22.8	Pass
40	0.008	0.046	18.1	0.011	0.069	16.5	Pass
Remark	---						

4.8 Voltage changes, voltage fluctuations and flicker	VERDICT: PASS
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Standard	EN 61000-3-3
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Limits

P _{ST} (Short term flicker)	<input checked="" type="checkbox"/>	≤ 1	<input type="checkbox"/>	Not Applicable
P _{LT} (Long term flicker)	<input checked="" type="checkbox"/>	≤ 0,65	<input type="checkbox"/>	Not Applicable
d _c (Relative Voltage change)	<input checked="" type="checkbox"/>	≤ 3,3%	<input type="checkbox"/>	Not Applicable
d _{MAX} (Max. voltage change)	<input type="checkbox"/>	≤ 4%	<input type="checkbox"/>	6%
	<input checked="" type="checkbox"/>	7%	<input type="checkbox"/>	Not Applicable

Supplemental information:

Performed measurements

Reason for not performing the measurement(s)	<input type="checkbox"/>	Tests are not necessary because the EUT is unlikely to produce significant voltage fluctuations or flicker (clause 6.1).				
Port under test	AC Mains power input					
Voltage – Mains [V]	230 V					
Frequency – Mains [Hz]	50 Hz					
Test method	<input checked="" type="checkbox"/>	Flickermeter according EN / IEC 61000-4-15:2011				
	<input type="checkbox"/>	Simulation (Clause 4.2.3 of EN / IEC 61000-3-3)				
	<input type="checkbox"/>	Analytical method (Clause 4.2.4 of EN / IEC 61000-3-3)				
	<input type="checkbox"/>	Use of P _{st} = 1 curve (Clause 4.2.5 of EN / IEC 61000-3-3)				
Observation period	<input checked="" type="checkbox"/>	10 min.	<input type="checkbox"/>	120 min.	<input type="checkbox"/>	Other:
	<input type="checkbox"/>	24 times switching according to Annex B				
Operating mode(s) used	Mode 1					
Remark	---					

See next page.

Measurement data		Port under test	AC input power
Operating mode used during the test		Mode 1 / 230 Vac / 50 Hz	
Results			
Tmax (dt > 3,3%)		0,0 ms	
Maximum relative voltage change d _{MAX}		0.43%	
Relative Voltage change d _c		<0,050%	
Short term flicker P _{ST}		0.158	
Long term flicker P _{LT}		0.069	
Remark	---		

5 IDENTIFICATION OF THE EQUIPMENT UNDER TEST

EUT PHOTOS



Overview

6 ANNEX 1 - MEASUREMENT UNCERTAINTIES

The table(s) below show(s) measurement uncertainties of the EMC test set-ups. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Conducted Emission / TR1
The maximum measurement uncertainty is evaluated as: 9kHz~150kHz: 2.80dB 150kHz~30MHz: 2.40dB
Asymmetric mode conducted emissions / TR1
The maximum measurement uncertainty is evaluated as: ISN T800: 150kHz~30MHz: 3.60 dB ISN T8-Cat6: 150kHz~30MHz: 3.50 dB ISN ST08: 150kHz~30MHz: 3.10 dB
Radiated Emission / AC1
The maximum measurement uncertainty is evaluated as: Horizontal: 30MHz~300MHz: 3.50 dB 300MHz~1GHz: 3.20 dB Vertical: 30MHz~300MHz: 3.60 dB 300MHz~1GHz: 3.10 dB
Radiated Emission / AC2
The maximum measurement uncertainty is evaluated as: Horizontal: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.10 dB Vertical: 30MHz~200MHz: 3.20 dB 300MHz~1GHz: 3.20 dB
Radiated Emission / AC3
The maximum measurement uncertainty is evaluated as: Horizontal: 30MHz~200MHz: 3.50 dB 300MHz~1GHz: 3.60 dB Vertical: 30MHz~200MHz: 3.60 dB 300MHz~1GHz: 3.50 dB
Radiated Emission / AC5
The maximum measurement uncertainty is evaluated as: Horizontal: 1GHz~18GHz: 5.00 dB Vertical: 1GHz~18GHz: 4.80 dB
Conducted differential voltage emissions / TR1
The maximum measurement uncertainty is evaluated as: 2.73 dB.
Harmonic current emissions / TR1
The maximum measurement uncertainty is evaluated as: 1.8 %.
Voltage fluctuations and flicker / TR1

The maximum measurement uncertainty is evaluated as: 1.5 %.
Electrostatic discharge / TR3
The maximum measurement uncertainty is evaluated as Rise Time: 6.4 %, Peak Current: 6 %, Current at 30 ns: 6 %, Current at 60 ns: 6 %.
Radio-frequency electromagnetic field / AC4
The maximum measurement uncertainty is evaluated as 1.48dB.
Electrical fast transients / TR2
The maximum measurement uncertainty is evaluated as Voltage: 4%, Time: 2%.
Surges / TR2
The maximum measurement uncertainty is evaluated as Voltage: 4%, Time: 2%.
Radio-frequency continuous conducted / TR2
The maximum measurement uncertainty is evaluated as CDN: 1.52dB, EM Clamp: 1.92dB.
Power-frequency magnetic field / TR2
The maximum measurement uncertainty is evaluated as 10%.
Voltage dips and interruptions / TR2
The maximum measurement uncertainty is evaluated as Voltage: 4%, Time: 2%.

7 ANNEX 2 – USED EQUIPMENT

Conducted Emission / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100906	2018.03.04	2020.03.04
Two-Line V-Network	R&S	ENV216	101190	2018.06.09	2020.06.09
Two-Line V-Network	R&S	ENV216	101044	2018.06.15	2020.06.15
Current Probe	R&S	EZ-17	100678	2018.03.07	2020.03.07
50ohm Termination	SHX	TF2	07081402	2018.09.08	2019.09.08
50ohm Termination	SHX	TF2	07081403	2018.09.08	2019.09.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Coaxial Cable	Suhner	RG 223	TR1-C1	2018.09.11	2019.09.11
Coaxial Cable	Suhner	RG 223	TR1-C2	2018.09.11	2019.09.11
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2018.01.09	2019.01.09

Asymmetric mode conducted emissions / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100906	2018.03.04	2020.03.04
Two-Line V-Network	R&S	ENV216	101190	2018.06.09	2020.06.09
Two-Line V-Network	R&S	ENV216	101044	2018.06.15	2020.06.15
Impedance Stabilization Network	Teseq GmbH	ISN T800	30306	2018.01.22	2020.01.22
Impedance Stabilization Network	Teseq GmbH	ISN T8-Cat6	29680	2018.01.22	2020.01.22
50ohm Termination	SHX	TF2	07081402	2018.09.08	2019.09.08
50ohm Termination	SHX	TF2	07081403	2018.09.08	2019.09.08
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Coaxial Cable	Suhner	RG 223	TR1-C1	2018.09.11	2019.09.11
Coaxial Cable	Suhner	RG 223	TR1-C2	2018.09.11	2019.09.11
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2018.01.09	2020.01.09

Conducted differential voltage emissions / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100906	2018.03.04	2020.03.04
Minimum Loss Pad	Agilent	11852B	63771	2018.04.20	2020.04.20
Minimum Loss Pad	Pasternack	PE7070	140204	2018.04.20	2020.04.20
Power Divider	Agilent	11636A	10149	2018.04.20	2020.04.20
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	N/A	N/A
Coaxial Cable	Suhner	RG 223	TR1-C1	2018.09.11	2019.09.11
Temperature/Humidity Meter	Ruitesi	RTS-8S	TR1-TH	2018.01.09	2020.01.09

Meter					
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Radiated Emission / AC1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100175	2018.09.08	2019.09.08
EMI Test Receiver	R&S	ESCI	100726	2018.03.18	2020.03.18
EMI Receiver	Agilent	N9038A	MY51210196	2018.06.09	2020.06.09
Preamplifier	Quietek	AP-025C	CHM-0602008	2018.04.10	2020.04.10
Preamplifier	Quietek	AP-025C	CHM-0503006	2018.04.10	2020.04.10
Bilog Antenna	Schaffner	CBL6112B	2931	2018.05.18	2020.05.18
Bilog Antenna	Schaffner	CBL6112B	2933	2018.05.18	2020.05.18
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2018.06.09	2020.06.09
Coaxial Cable	Huber+Suhner	RG 214_U	AC1-L	2018.10.10	2019.10.10
Coaxial Cable	Huber+Suhner	RG 214_U	AC1-R	2018.10.10	2019.10.10
Temperature/Humidity Meter	RTS	RTS-8S	AC1-TH	2018.01.09	2020.01.09

Radiated Emission / AC2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100573	2018.03.04	2020.03.04
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2018.06.09	2020.06.09
Coaxial Cable	Huber+Suhner	RG 214	AC2-C	2018.02.28	2020.02.28
Temperature/Humidity Meter	RTS	RTS-8S	AC2-TH	2018.01.09	2020.01.09

Radiated Emission / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Test Receiver	R&S	ESCI	100176	2018.09.08	2019.09.08
Bilog Antenna	Teseq GmbH	CBL6112D	27613	2018.06.09	2020.06.09
Coaxial Cable	Huber+Suhner	RG 214	AC3-C	2018.02.28	2020.02.28
Temperature/Humidity Meter	RTS	RTS-8S	AC3-TH	2018.01.09	2020.01.09

Radiated Emission / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
EMI Receiver	Agilent	N9038A	MY51210196	2018.06.09	2020.06.09
low Noise Amplifier	BXT	NA2651D	LNA17040209	2018.07.16	2019.07.16
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2018.06.09	2020.06.09
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2018.02.28	2020.02.28

Tunable Bandreject filter	Wainwright	WRCG2400 /2485- 2375/2510- 60/11SS	SUA0500285	2018.06.13	2020.06.13
Temperature/Humidity Meter	RTS	RTS-8S	AC5-TH	2018.01.09	2020.01.09

Harmonic current emissions / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Power Analyzer	California	PACS-1	72419	2017.11.04	2019.11.04
AC Power Source	California	5001iX-208	56741	2017.11.04	2019.11.04
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2018.01.09	2020.01.09

Voltage fluctuations and flicker / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Power Analyzer	California	PACS-1	72419	2017.11.04	2019.11.04
AC Power Source	California	5001iX-208	56741	2017.11.04	2019.11.04
Temperature/Humidity Meter	RTS	RTS-8S	TR1-TH	2018.01.09	2020.01.09

Voltage fluctuations and flicker / TR1

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
ESD Simulator	EM TEST	Dito	V061610136 7	2018.04.18	2020.04.18
ESD Simulator	3C TEST	ESD-30A	EC0261406	2018.08.08	2019.08.08
ESD Simulator	NoiseKen	ESS-B3011	ESS1233485	2018.03.05	2020.03.05
ESD Simulator	EM TEST	NSG 438A	237	2018.08.25	2019.08.25
Barometer	Fengyun	DYM3	0506048	2017.10.23	2019.10.23
Temperature/Humidity Meter	RTS	RTS-8S	TR3-TH	2018.01.09	2020.01.09

Radio-frequency electromagnetic field / AC4

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Signal Generator	R&S	SMB100A	114728	2017.11.16	2019.11.16
Power Meter	R&S	NRP2	106362	2017.11.05	2019.11.05
Power Sensor	R&S	NRP6A	101411	2017.11.13	2019.11.13
Power Sensor	R&S	NRP6B	101412	2017.11.13	2019.11.13
RF Switch	R&S	OPS120	101944	2017.11.14	2019.11.14
Power Amplifier	R&S	BBA150 BC500	102912	2018.01.24	2020.01.24
LOG Antenna	R&S	HL046E	100257	N/A	N/A
Filed Probe	AR	FL7006/KIT	350261	2018.09.19	2021.09.19
Temperature/Humidity Meter	RTS	RTS-8S	AC4-TH	2018.01.09	2020.01.09

Meter					
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Radio-frequency electromagnetic field / AC4

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Immunity Test System	Teseq GmbH	NSG 3060	4019	2018.09.03	2019.09.03
CDN	Teseq GmbH	CDN 3061	5010	2018.09.03	2019.09.03
Automatic Step transformer	Teseq GmbH	VAR 3005-S16	3010	2018.03.19	2020.03.19
CDN	Teseq GmbH	CDN 3063	1997	2018.03.29	2020.03.29
CDN	Teseq GmbH	CDN 3425	2029	2017.12.10	2019.12.10
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2020.01.09

Electrical fast transients / TR2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Immunity Test System	Teseq GmbH	NSG 3060	4019	2018.09.03	2019.09.03
CDN	Teseq GmbH	CDN 3061	5010	2018.09.03	2019.09.03
Automatic Step transformer	Teseq GmbH	VAR 3005-S16	3010	2018.03.19	2020.03.19
CDN	Teseq GmbH	CDN 3063	1997	2018.03.29	2020.03.29
CDN	Teseq GmbH	CDN 3425	2029	2017.12.10	2019.12.10
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2020.01.09

Surges / TR2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Immunity Test System	Teseq GmbH	NSG 3060	4019	2018.09.03	2019.09.03
CDN	Teseq GmbH	CDN 3061	5010	2018.09.03	2019.09.03
Automatic Step transformer	Teseq GmbH	VAR 3005-S16	3010	2018.03.19	2019.03.19
CDN	Teseq GmbH	CDN 3063	1997	2018.03.29	2019.03.29
CDN	Teseq GmbH	CDN 118	40652	2017.12.10	2019.12.10
CDN	Teseq GmbH	CDN 118	40644	2017.12.10	2019.12.10
CDN	Teseq GmbH	CDN 117	31806	2018.03.04	2020.03.04
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2020.01.09

Radio-frequency continuous conducted / TR2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
RF-Generator	Teseq GmbH	NSG 4070B-80	43711	2018.06.09	2020.06.09
Attenuation	Woken	/	0080CN1006 H	2018.04.20	2020.04.20

Coupling / Decoupling Network	Teseq GmbH	CDN M016	24484	2017.11.04	2019.11.04
Coupling / Decoupling Network	Schaffner	CDN T400	19083	2018.10.14	2019.10.14
Coupling / Decoupling Network	Teseq GmbH	CDN T400	22461	2018.10.14	2019.10.14
Coupling / Decoupling Network	Teseq GmbH	CDN T800	26167	2018.01.07	2019.01.07
Coupling / Decoupling Network	Teseq GmbH	CDN M525	31021	2018.03.04	2019.03.04
EM Clamp	Schaffner	KEMZ 801	21041	2018.10.14	2019.10.14
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2019.01.09

Power-frequency magnetic field / TR2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Immunity Test System	Teseq GmbH	NSG 3060	4019	2018.09.03	2019.09.03
CDN	Teseq GmbH	CDN 3061	5010	2018.09.03	2019.09.03
Automatic Step transformer	Teseq GmbH	VAR 3005-S16	3010	2018.03.19	2019.03.19
Magnetic field Coil	Teseq GmbH	INA 702	306	2017.12.10	2019.12.10
Magnetic Field Generator	Teseq GmbH	MFO 6502	201	2017.12.10	2019.12.10
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2019.01.09

Power-frequency magnetic field / TR2

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date
Immunity Test System	Teseq GmbH	NSG 3060	4019	2018.09.03	2019.09.03
CDN	Teseq GmbH	CDN 3061	5010	2018.09.03	2019.09.03
Automatic Step transformer	Teseq GmbH	VAR 3005-S16	3010	2018.03.19	2019.03.19
Temperature/Humidity Meter	RTS	RTS-8S	TR2-TH	2018.01.09	2019.01.09

8 ANNEX 3 - TEST PHOTOS

Conducted emissions – AC mains power ports



Disturbance power (30 MHz – 300 MHz)



Harmonic current emissions & Voltage changes, voltage fluctuations and flicker



End of the report