

EMC TEST REPORT**Test Laboratory:****Philips Saeco S.P.A.**

Laboratorio omologazione prodotti

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Equipment Under Test (EUT)

Product:	Espresso coffee maker with grinder motor		
Trade mark:	GAGGIA		
Manufacturer:	PHILIPS CONSUMER LIFESTYLE B.V.		
Applicant:	PHILIPS CONSUMER LIFESTYLE B.V.		
Applicant address:	Tussendiepen, 4 - 9206 AD Drachten - The Netherlands		
Model/Type:	SUP 046DG		
Serial number:	TU901637020358 (*)		
Production date (week/year):	37/2016 (*)		
Address of the production plant:	PHILIPS SAECO S.P.A. Via Torretta, 230-240 - 40041 Gaggio Montano (BO) - Italy or PHILIPS ORASTIE S.r.l. - Str. Luncii, 18 - Orastie - Romania		
Rating (Chinese version):	220 V ~	50 Hz	1300 W
Rating (Korean and Brazilian version):	220 V ~	60 Hz	1300 W
Rating (European version):	230 V ~	50 Hz	1400 W
Rating (Australian version):	240 V ~	50 Hz	1500 W
Rating (Multi-country version and European alternate version):	220-240 V ~	50/60 Hz	1400 W
Protection class	Class I		

(*) Serial number refers to type SUP 046DG European version (rating 230V; 50Hz; 1400W).

Summary

Referring to the performance criteria and the operating mode during the tests specified in this report, the equipment complies with the requirements according to the following standard:

European standard	IEC/CISPR Standard
EN 55014-1:2006 + A1:2009 + A2:2011	IEC/CISPR 14-1:2005 + A1:2008 + Cor.:2009 + A2:2011
EN 55014-2:1997 + A1:2001 + A2:2008	IEC/CISPR 14-2:1997 + A1:2001 + A2:2008
EN 61000-3-2:2014	IEC 61000-3-2:2014
EN 61000-3-3:2013	IEC 61000-3-3:2013

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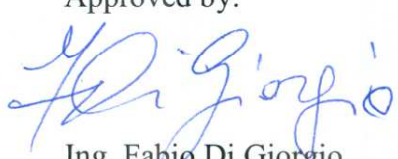
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- Section 3: List of components
- Section 4: Photos

Test date: 2016-09-05 to 2016-09-22

Date of issue: 2016-10-07

Tested by:

Approved by:


Ing. Gianfilippo Gozzo
(Laboratory Engineer)
Ing. Fabio Di Giorgio
(Laboratory Manager)

Section 1 - SUMMARY OF TEST RESULTS

Applied basic standards

European standard	IEC Standard
EN 61000-4-2:2009	IEC 61000-4-2:2008
EN 61000-4-3:2006 + A1:2008 + A2:2010	IEC 61000-4-3:2006 + A1:2007 + A2:2010
EN 61000-4-4:2012	IEC 61000-4-4:2012
EN 61000-4-5:2006	IEC 61000-4-5:2005
EN 61000-4-6:2014	IEC 61000-4-6:2013
EN 61000-4-11:2004	IEC 61000-4-11:2004

Remark: the basic standards which are described in EN 55014-2 clause annex ZA are also covered by the above mentioned standards.

Standard	Description	Result	Ref. Annex for details
EN 55014-1	Continuous disturbance; Conducted emission	OK	Annex A1
EN 55014-1	Continuous disturbance; RF Disturbance power	OK	Annex A2
EN 55014-1	Discontinuous disturbance	OK	Annex A3
EN 61000-3-2	Harmonics	OK	Annex B
EN 61000-3-3	Voltage fluctuations and flicker	OK	Annex C
EN 61000-4-2	Electrostatic discharge	OK	Annex D
EN 61000-4-4	Fast transients/burst	OK	Annex E
EN 61000-4-5	Surges	OK	Annex F
EN 61000-4-6	RF Injected currents	OK	Annex G
EN 61000-4-11	Voltage dips and interruptions	OK	Annex H

Note about result:

- **OK:** the EUT **complied** with the test specifications;
- **NOK:** the EUT **did not comply** with the test specifications.

The test results in this report relate only to the items tested
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Main features of SUP 046DG:

- One dispenser motor and one grinder motor;
- One electronic power board and one electronic CPU board with keyboard integrated;
- One display;
- One slim boiler for dispensing coffee and one slim boiler for dispensing hot water and steam;
- One pump for coffee hydraulic circuit and one pump for hot water/steam hydraulic circuit;
- One flow meter for above two hydraulic circuits;
- One water tank for above two hydraulic circuits;
- One mains switch and one appliance inlet for detachable power supply cord;
- One safety electro-valve for coffee hydraulic circuit;
- One external jug for contains cold milk with integrated a mechanical tube system for hot milk mounting;
- One system of five electro-valves for emulsify milk on external removable jug or dispensing hot water/steam to external tube:
 - one valve operates putting air into jug;
 - one valve operates putting hot water/steam into jug;
 - one valve operates for jug cleaning;
 - one valve operates putting hot water/steam to external tube;
 - one valve operates for system heating before dispensing product or discharge hot water/steam after/during dispensing product (safety valve for hot water/steam hydraulic circuit).

Classification of the EUT:

The EUT is a "Category II" appliance according to EN 55014-2 cl.4.2.

Operating modes used for testing the EUT

No.	Operating mode	Reason
1)	Stand-by (ready for dispensing products).	Stand-by for Conducted emission and RF Disturbance power tests.
2)	Dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according EN 55014-1 cl.7.3.1.3.3).	Operating mode for Conducted emission and RF Disturbance power tests.
3)	Dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (dispensing operations per minute according to EN 55014-1 cl.7.3.1.3.3).	Operating mode for Discontinuous disturbance test.
4)	Stand-by and dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according to EN 55014-1 cl.7.3.1.3.3).	Operating mode for Harmonics emission and Voltage Fluctuations and Flicker emission tests
5)	Stand-by and dispensing cappuccino: set to maximum of coffee amount and coffee temperature.	Operating mode for Electrostatic discharge immunity test.
6)	Dispensing cappuccino: set to maximum of coffee amount and coffee temperature.	Operating mode for Fast transients/burst, Surges, RF injected currents and Voltage dips and interruptions immunity tests.

Additions to the performance criteria described in the standard

Criteria	Operating mode	Description
A	5), 6)	Normal distribution both in temperature and quantity, without any appreciable degradation of performance internal components of the EUT or unexpected wrong visual indications (display).
B	5), 6)	Normal distribution both in temperature and quantity, but appreciable degradation of performance of internal components of the EUT and/or flashing of display are acceptable during disturbances application.
C	5), 6)	Every malfunction of the EUT (such as loss of distribution or strong degradation in temperature and/or quantity) is acceptable during disturbances application, but the EUT shall recover its normal performance when the disturbances cease with or without operator intervention.

Note about setup

All test setups used are in accordance with the requirements of the relevant standard. Only if present, any deviation from the required test setup is described in the specific measurement section of this test report.

Note about test

All emission tests according to EN 55014-1 and EN 61000-3-2 were carried out on EUT type SUP 046DG (worst case rating 240V 50Hz).

Emission test according to EN 61000-3-3 and all immunity tests according to EN 55014-2 were carried out on EUT type SUP 046DG (rating 230V 50Hz).

Section 2 – MEASUREMENTS

Standard	Description	Result	Ref. Annex for details
EN 55014-1	Continuous disturbance; Conducted emission	OK	Annex A1

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	264 V
Test supply frequency	50 Hz
Rated Power	1500 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Semi-anechoic chamber 9x6x6m	O.CAM001	Sispe	---	---
EMI Receiver	O.RIC001	Schaffner	SCR3502	452
LISN	O.GEN006	AFJ	LT-32	32030222085
10dB, 1W Attenuator	O.ATN008	Telegartener	---	J01006A0836

Measurement uncertainty (normal distribution and confidence level of 95%)	2,6 dB
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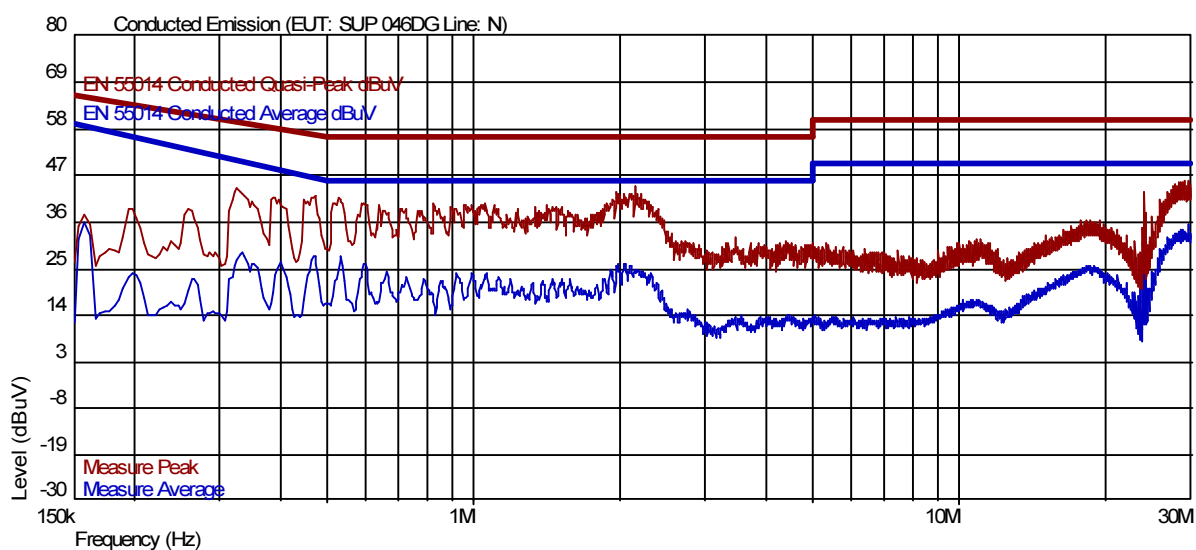
Remark on the following measurement
According to the EN 55014-1 cl.4.1.1.3 (Tab.1): the measurements with the average detector are not necessary because the limit for the measurement with the average detector is met when use a quasi-peak detector.

EUT operating mode	1) Stand-by (ready for dispensing products).
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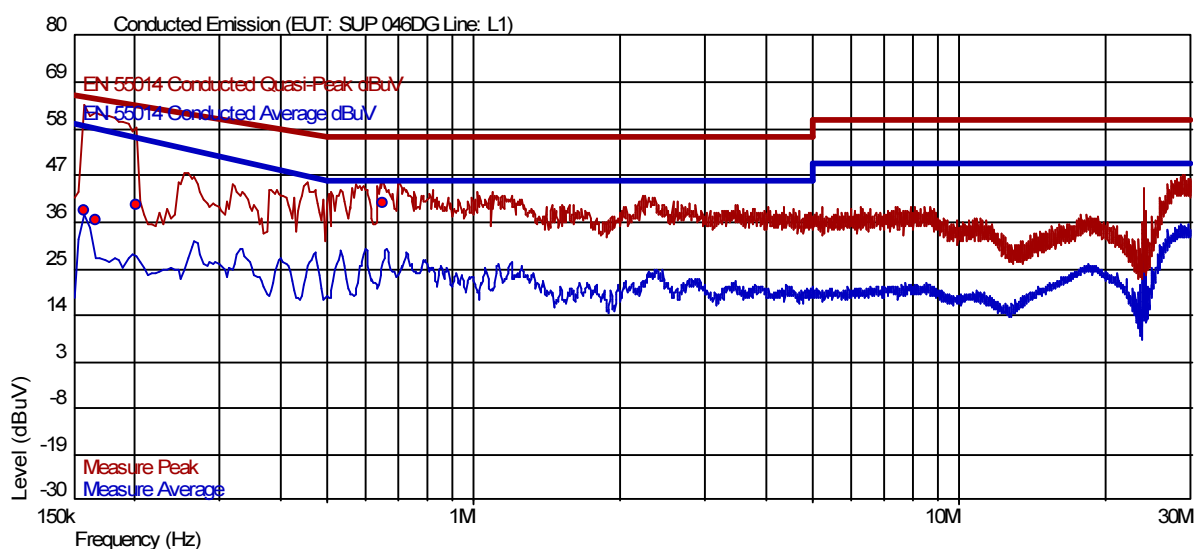
Receiver scan settings

Detector	Resolution bandwidth / IFBW	Step size	Measure Time / Dwell Time
Peak	9 kHz	4 kHz	20 ms
Average	9 kHz	4 kHz	20 ms

NEUTRAL



PHASE



QP Detector measurements performed on frequencies of Peak values found in the range of 10 dB below the limit

Frequency(Hz)	Level(dBuV)	Limit(dBuV)	Margin(dBuV)	Detector	RBW(Hz)
158.0 k	38.84	65.57	-26.73	QP	9.0 k
166.0 k	36.28	65.16	-28.88	QP	9.0 k
202.0 k	39.96	63.53	-23.57	QP	9.0 k
650.0 k	40.25	56.00	-15.75	QP	9.0 k

EUT operating mode

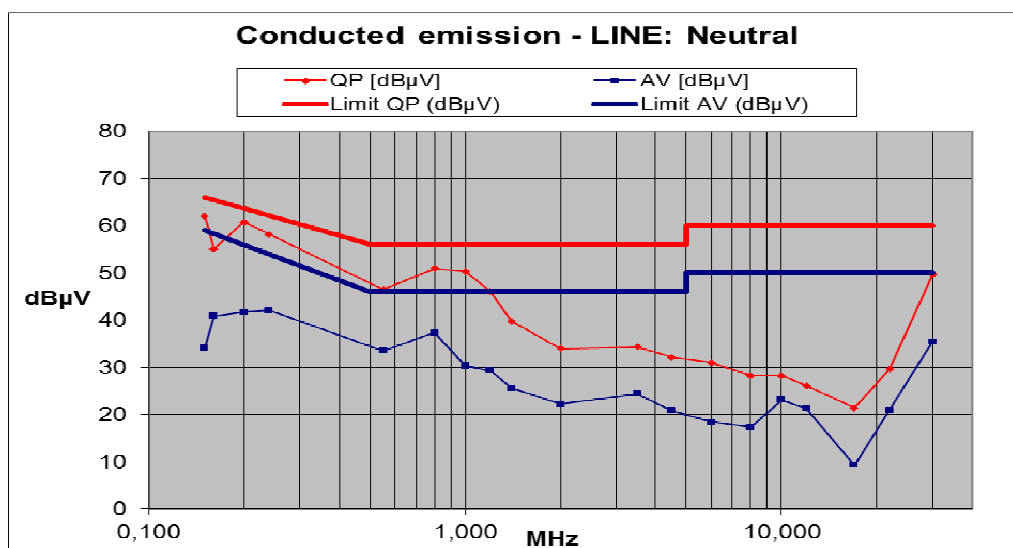
2) Dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according EN 55014-1 cl.7.3.1.3.3).

Receiver settings

Detector	Resolution bandwidth / IFBW	Measure Time / Dwell Time
Quasi Peak - QP	9 kHz	1 s
Average - AV	9 kHz	1 s

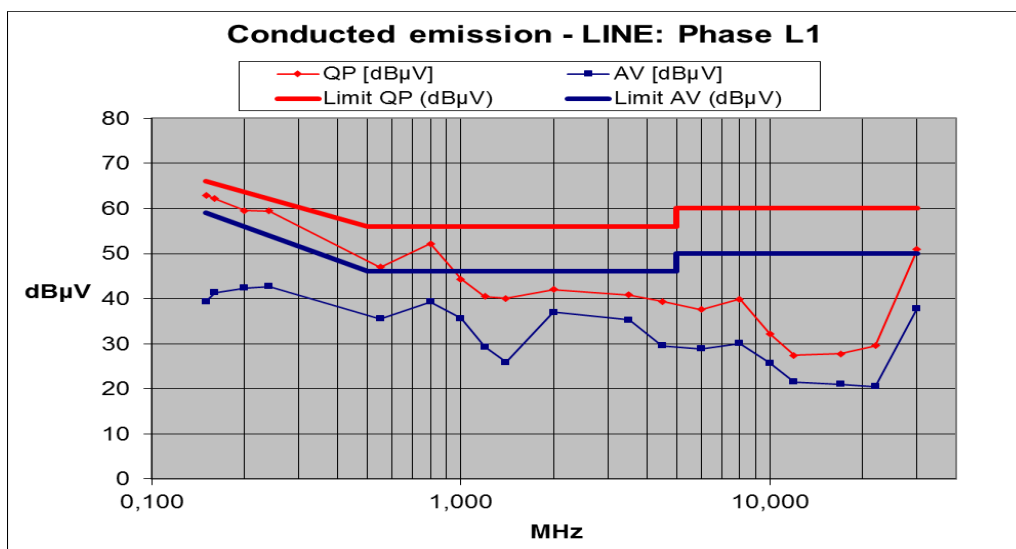
NEUTRAL

Frequency [MHz]	Detector			
	QP [dBμV]	ΔQP [dBμV]	AV [dBμV]	ΔAV [dBμV]
0,15	62,0	4,0	34,1	24,9
0,16	55,0	10,5	40,8	17,5
0,20	60,7	2,9	41,7	14,2
0,24	58,1	4,0	42,0	11,9
0,55	46,4	9,6	33,5	12,5
0,80	50,9	5,1	37,3	8,7
1,00	50,3	5,7	30,3	15,7
1,20	46,0	10,0	29,3	16,7
1,40	39,8	16,2	25,6	20,4
2,00	34,0	22,0	22,2	23,8
3,50	34,3	21,7	24,4	21,6
4,50	32,1	23,9	20,8	25,2
6,00	31,0	29,0	18,5	31,5
8,00	28,2	31,8	17,3	32,7
10,00	28,2	31,8	23,1	26,9
12,00	26,1	33,9	21,3	28,7
17,00	21,4	38,6	9,3	40,7
22,00	29,6	30,4	20,9	29,1
30,00	49,6	10,4	35,4	14,6



PHASE

Frequency [MHz]	Detector			
	QP [dB μ V]	Δ QP [dB μ V]	AV [dB μ V]	Δ AV [dB μ V]
0,15	62,9	3,1	39,4	19,6
0,16	62,2	3,3	41,3	17,0
0,20	59,5	4,1	42,4	13,5
0,24	59,4	2,7	42,7	11,2
0,55	47,0	9,0	35,5	10,5
0,80	52,2	3,8	39,3	6,7
1,00	44,3	11,7	35,6	10,4
1,20	40,5	15,5	29,3	16,7
1,40	40,1	15,9	25,9	20,1
2,00	42,0	14,0	37,0	9,0
3,50	40,8	15,2	35,3	10,7
4,50	39,4	16,6	29,6	16,4
6,00	37,6	22,4	28,9	21,1
8,00	39,9	20,1	30,1	19,9
10,00	32,2	27,8	25,7	24,3
12,00	27,4	32,6	21,5	28,5
17,00	27,8	32,2	21,0	29,0
22,00	29,6	30,4	20,5	29,5
30,00	50,9	9,1	37,8	12,2



Standard	Description	Result	Ref. Annex for details
EN 55014-1	Continuous disturbance; RF Disturbance power	OK	Annex A2

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	264 V
Test supply frequency	50 Hz
Rated Power	1500 W

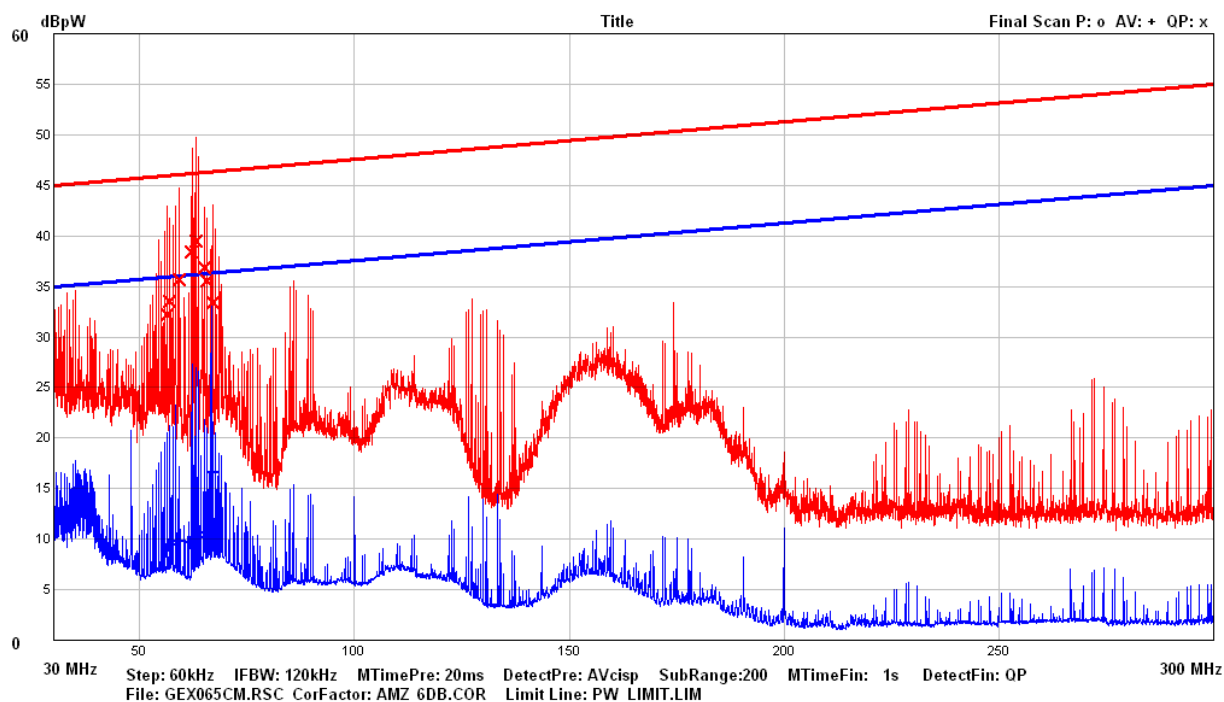
Test Equipment	Id. Code	Manufacturer	Model/Type	Serial Number
Semi-anechoic chamber 9x6x6m	O.CAM001	Sispe	---	---
EMI Receiver	O.RIC001	Schaffner	SCR3502	452
6dB, 1W Attenuator	O.ATN006	Telegartner	---	J01006A0835
Absorbing clamp CISPR16	O.REM002	Schaffner	AMZ41	20348

Measurement uncertainty (normal distribution and confidence level of 95%)	1,4 dB
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EUT operating mode	1) Stand-by (ready for dispensing products).
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Receiver scan settings

Detector	Resolution bandwidth / IFBW	Step size	Measure Time / Dwell Time
Peak	120 kHz	60 kHz	20 ms
Average	120 kHz	60 kHz	20 ms



Remark: The distance between the absorbing clamp CISPR16 and the EUT is 0,65 meters.

Remark: The point marked with “x” refers to quasi-peak measurements; the value shown in the figure is below the prescribed limits.

Remark: The point marked with “+” refers to average measurements; the value shown in the figure is below the prescribed limits.

QP Detector measurements performed on frequencies of Peak values found in the range of 6 dB below the limit

Frequency(MHz)	Level(dBpW)	Limit(dBpW)	Margin(dBpW)	Detector	RBW(Hz)
56,4	32,3	46,0	-13,7	QP	120 kHz
57,0	33,6	46,0	-12,4	QP	120 kHz
59,1	35,7	46,1	-10,4	QP	120 kHz
62,0	38,4	46,2	-7,8	QP	120 kHz
63,0	39,6	46,2	-6,6	QP	120 kHz
64,9	36,9	46,3	-9,4	QP	120 kHz
65,7	35,6	46,3	-10,7	QP	120 kHz
67,0	33,4	46,4	-13,0	QP	120 kHz

Average CISPR Detector measurements performed on frequencies of Average values found in the range of 6 dB below the limit

Frequency(MHz)	Level(dBpW)	Limit(dBpW)	Margin(dBpW)	Detector	RBW(Hz)
56,4	8,8	36,0	-27,2	AVERAGE CISPR	120 kHz
57,0	9,4	36,0	-26,6	AVERAGE CISPR	120 kHz
59,1	9,8	36,1	-26,3	AVERAGE CISPR	120 kHz
62,0	9,7	36,2	-26,5	AVERAGE CISPR	120 kHz
63,0	10,2	36,2	-26,0	AVERAGE CISPR	120 kHz
64,9	10,6	36,3	-25,7	AVERAGE CISPR	120 kHz
65,7	10,7	36,3	-25,6	AVERAGE CISPR	120 kHz
67,0	16,6	36,4	-19,8	AVERAGE CISPR	120 kHz

EUT operating mode

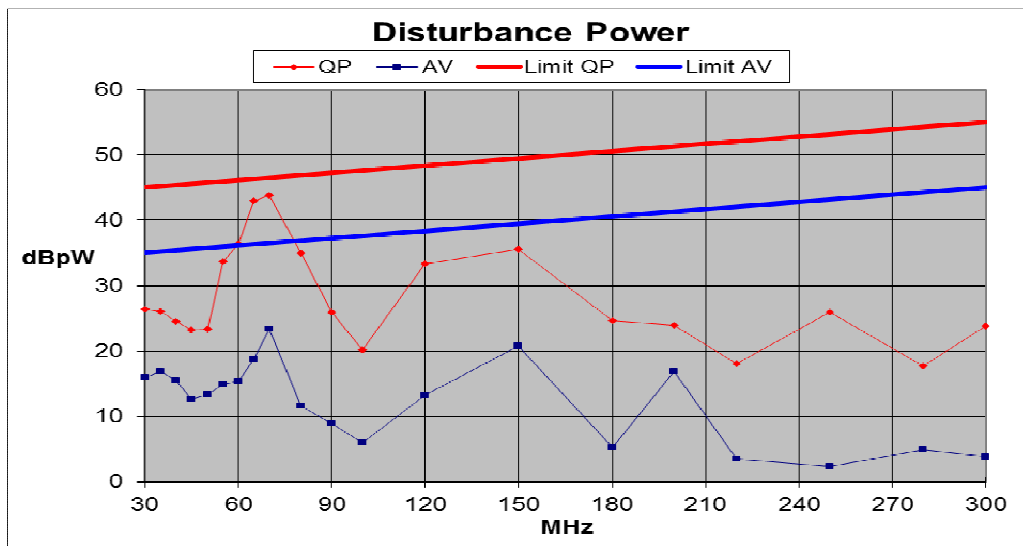
2) Dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according EN 55014-1 cl.7.3.1.3.3).

Receiver settings

Detector	Resolution bandwidth / IFBW	Measure Time / Dwell Time
Quasi Peak - QP	120 kHz	1 s
Average - AV	120 kHz	1 s

MEASURE of Disturbance Power, FREQUENCY RANGE from 30 MHz to 300 MHz

Frequency [MHz]	Detector			
	QP [dBpW]	ΔQP [dBpW]	AV [dBpW]	ΔAV [dBpW]
30,00	26,4	18,6	16,0	19,0
35,00	26,1	19,1	16,9	18,3
40,00	24,5	20,9	15,5	19,9
45,00	23,2	22,4	12,7	22,9
50,00	23,4	22,3	13,4	22,3
55,00	33,7	12,2	14,9	21,0
60,00	36,4	9,7	15,4	20,7
65,00	43,0	3,3	18,8	17,5
70,00	43,8	2,7	23,3	13,2
80,00	35,0	11,9	11,6	25,3
90,00	26,0	21,2	8,9	28,3
100,00	20,2	27,4	5,9	31,7
120,00	33,4	14,9	13,2	25,1
150,00	35,6	13,8	20,8	18,6
180,00	24,7	25,9	5,2	35,4
200,00	23,9	27,4	16,9	24,4
220,00	18,1	33,9	3,5	38,5
250,00	25,9	27,2	2,3	40,8
280,00	17,7	36,6	4,9	39,4
300,00	23,8	31,2	3,8	41,2



Evaluation of compliance in the frequency range from 300 MHz to 1000 MHz

Appliances are deemed to comply in the frequency range from 300 MHz to 1000 MHz without testing if both of the following conditions of clause 4.1.2.3.2 procedure a) are fulfilled:

Clause 4.1.2.3.2 procedure a) condition 1	All emission readings from the equipment under test lower than the applicable limits (Table 2a) reduced by the margin (Table 2b).	Yes
Clause 4.1.2.3.2 procedure a) condition 2	Maximum clock frequency less than 30 MHz.	Yes

Result:

Clause 4.1.2.3.2 procedure a)	Radiated disturbances measurement 300 MHz to 1000 MHz required?	No
Result:	PASS	

Standard	Description	Result	Ref. Annex for details
EN 55014-1	Discontinuous disturbance	OK	Annex A3

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	264 V
Test supply frequency	50 Hz
Rated Power	1500 W

Test Equipment	Id. Code	Manufacturer	Model/Type	Serial Number
Semi-anechoic chamber 9x6x6m	O.CAM001	Sispe	---	---
LISN	O.GEN006	AFJ	LT-32	32030222085
10dB, 1W Attenuator	O.ATN008	Telegartener	---	J01006A0836
Discontinuous disturbance analyzer	O.RIC002	Schaffner	DIA1512D	21080

Measurement uncertainty (normal distribution and confidence level of 95%)	3,5 dB
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EUT operating mode	3) Dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (dispensing operations per minute according to EN 55014-1 cl.7.3.1.3.3).
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NEUTRAL

Click on N_Run A_22_09_2016.drd		Reference: 16E1657R00				
Discontinuous Interference Tests						
Apparatus Code: Gaggia Exprelia				Tested by: Gozzo		
Manufacturer: Saeco						
Model: SUP 046DG						
Click on N_Run A_22_09_2016						
RUN A: September 22, 2016: 10.03 AM			Run Duration: 3 mins 0 secs			
Duration limit: 3 mins						
Continuous limit: 0.600 secs						
Click limit: 40 (reference frequencies)						
Channel no:	1	2	3	4	5	6
	150kHz	500kHz	1.4MHz	30MHz		
Sensitivity (dBuV):	66	56	56	60		
Short Clicks:	0	0	0	0		
Long Clicks:	0	0	0	0		
Total:	0	0	0	0		
Click Rate:	0.00	0.00	0.00	0.00		
Continuous(s):	0.00	0.00	0.00	0.00		
Apparatus Passes (subject to exceptions)						
Click rate not > 5 and no long clicks.						
Run time limit reached						

Apparatus passes according to cl. 4.2.3.3 of the standard CEI EN 55014-1

PHASE

Click on L1_Run A_22_09_2016.drd				Reference: 16E1657R00		
Discontinuous Interference Tests						
Apparatus Code: Gaggia Exprelia				Tested by: Gozzo		
Manufacturer: Saeco						
Model: SUP 046DG						
Click on L1_Run A_22_09_2016						
RUN A: September 22, 2016: 09:57 AM				Run Duration: 3 mins 0 secs		
Duration limit: 3 mins						
Continuous limit: 0.600 secs						
Click limit: 40 (reference frequencies)						
Channel no:	1	2	3	4	5	6
	150kHz	500kHz	1.4MHz	30MHz		
Sensitivity (dBuV):	66	56	56	60		
Short Clicks:	0	0	0	0		
Long Clicks:	0	0	0	0		
Total:	0	0	0	0		
Click Rate:	0.00	0.00	0.00	0.00		
Continuous(s):	0.00	0.00	0.00	0.00		
Apparatus Passes (subject to exceptions)						
Click rate not > 5 and no long clicks.						
Run time limit reached						

Apparatus passes according to cl. 4.2.3.3 of the standard CEI EN 55014-1

Standard	Description	Result	Ref. Annex for details
EN 61000-3-2	Harmonics	OK	Annex B

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	240 V
Test supply frequency	50 Hz
Rated Power	1500 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Source of supply	O.GEN008	EM Test	ACS 500	0303-01
Signal conditioning unit, Harmonic and Flicker analyzer	O.MIS001	EM Test	DPA 500	0303-05

Measurement uncertainty (normal distribution and confidence level of 95%)	2,9%
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EUT operating mode	4) Stand-by and dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according to EN 55014-1 cl.7.3.1.3.3).
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Harmonics measurement	Test Equipment with software configuration according to EN/IEC 61000-4-7 Edition 2002 + A1:2008	Grouping ON
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Standard used:	EN/IEC 61000-3-2 Ed.4 Short cyclic Equipment class A <= 150% of the limit (Limit factor: 1.00)
Observation time:	150s
Windows width:	10 periods - (EN/IEC 61000-4-7 Edition 2002 + A1:2008)
E. U. T.:	SUP 046DG

Check harmonics 2..40 [exception odd 21..39]:	
Harmonic(s) > 150%:	
Order (n):	None
Harmonic(s) with average > 100%:	
Order (n):	None

Check odd harmonics 21..39:	
All Partial Odd Harmonics below partial limits.	
Harmonic(s) > 150%:	
Order (n):	None
Harmonic(s) with average > 150%:	
Order (n):	None

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	2,514			
2	0,283	26,181%	1,080	PASS
3	0,082	3,568%	2,300	PASS
4	0,071	16,518%	0,430	PASS
5	0,037	3,281%	1,140	PASS
6	0,033	10,835%	0,300	PASS
7	0,032	4,201%	0,770	PASS
8	0,021	9,011%	0,230	PASS
9	0,026	6,518%	0,400	PASS
10	0,015	8,065%	0,184	PASS
11	0,024	7,208%	0,330	PASS
12	0,011	7,331%	0,153	PASS
13	0,021	10,059%	0,210	PASS
14	0,010	7,687%	0,131	PASS
15	0,018	12,277%	0,150	PASS
16	0,008	6,659%	0,115	PASS
17	0,016	11,923%	0,132	PASS
18	0,008	7,597%	0,102	PASS
19	0,014	12,062%	0,118	PASS
20	0,006	6,704%	0,092	PASS
21	0,012	7,644%	0,161	PASS
22	0,006	7,179%	0,084	PASS
23	0,012	7,954%	0,147	PASS
24	0,005	7,020%	0,077	PASS
25	0,010	7,661%	0,135	PASS
26	0,005	7,086%	0,071	PASS
27	0,010	8,090%	0,125	PASS
28	0,005	7,332%	0,066	PASS
29	0,009	7,558%	0,116	PASS
30	0,005	7,376%	0,061	PASS
31	0,009	7,853%	0,109	PASS
32	0,004	7,456%	0,058	PASS
33	0,007	7,243%	0,102	PASS
34	0,004	7,694%	0,054	PASS
35	0,007	7,169%	0,096	PASS
36	0,004	7,603%	0,051	PASS
37	0,006	6,611%	0,091	PASS
38	0,004	7,773%	0,048	PASS
39	0,005	6,276%	0,087	PASS
40	0,004	7,848%	0,046	PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	6,117			
2	1,056	65,185%	1,620	PASS
3	0,411	11,899%	3,450	PASS
4	0,228	35,405%	0,645	PASS
5	0,143	8,367%	1,710	PASS
6	0,099	21,986%	0,450	PASS
7	0,086	7,472%	1,155	PASS
8	0,061	17,732%	0,345	PASS
9	0,075	12,462%	0,600	PASS
10	0,046	16,562%	0,276	PASS
11	0,065	13,111%	0,495	PASS
12	0,036	15,860%	0,230	PASS
13	0,054	17,109%	0,315	PASS
14	0,032	16,384%	0,197	PASS
15	0,049	21,584%	0,225	PASS
16	0,027	15,536%	0,173	PASS
17	0,037	18,714%	0,199	PASS
18	0,025	16,190%	0,153	PASS
19	0,033	18,363%	0,178	PASS
20	0,022	15,871%	0,138	PASS
21	0,027	16,752%	0,161	PASS
22	0,020	15,962%	0,125	PASS
23	0,024	16,012%	0,147	PASS
24	0,019	16,291%	0,115	PASS
25	0,022	15,930%	0,135	PASS
26	0,017	15,854%	0,106	PASS
27	0,020	16,340%	0,125	PASS
28	0,016	16,433%	0,099	PASS
29	0,018	15,877%	0,116	PASS
30	0,015	16,307%	0,092	PASS
31	0,019	17,021%	0,109	PASS
32	0,014	16,550%	0,086	PASS
33	0,017	16,226%	0,102	PASS
34	0,014	16,968%	0,081	PASS
35	0,016	16,731%	0,096	PASS
36	0,013	16,973%	0,077	PASS
37	0,014	15,916%	0,091	PASS
38	0,013	17,746%	0,073	PASS
39	0,014	15,784%	0,087	PASS
40	0,012	17,519%	0,069	PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Result:

Harmonics measurement with Grouping OFF required?	No
Result:	PASS

Standard	Description	Result	Ref. Annex for details
EN 61000-3-3	Voltage fluctuations and flicker	OK	Annex C

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	230 V
Test supply frequency	50 Hz
Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Source of supply	O.GEN008	EM Test	ACS 500	0303-01
Signal conditioning unit, Harmonic and Flicker analyzer	O.MIS001	EM Test	DPA 500	0303-05

Measurement uncertainty (normal distribution and confidence level of 95%)	6,2%
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EUT operating mode	4) Stand-by and dispensing cappuccino (worst case): set to maximum of coffee amount and coffee temperature (according to EN 55014-1 cl.7.3.1.3.3).
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Standard used:	EN/IEC 61000-3-3 Ed.3 Flicker
Short time (Pst):	10 min
Observation time:	120 min (12 Flicker measurements)
Effectiv Observation Time:	10 min (1 Flicker measurement)
Flickermeter:	230V / 50Hz according IEC 61000-4-15 Ed.2
Flicker Impedance:	Zref (IEC 60725)
E. U. T.:	SUP 046DG

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.861	1.00	PASS
Plt	0.376	0.65	PASS
dc [%]	1.209	3.30	PASS
dmax [%]	1.607	4.00	PASS
Tmax [s]	0.000	0.50	PASS

Standard	Description	Result	Ref. Annex for details
EN 61000-4-2	Electrostatic discharge	OK	Annex D

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	230 V
Test supply frequency	50 Hz
Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
ESD Generator	O.GEN003	Schaffner	NSG 435	5237

Measurement uncertainty (normal distribution and confidence level of 95%)	Output voltage < ±5% First peak current < ±10%	Rise time 0,7 ns < t _r < 1,0 ns Current _(30 and 60 ns) < ±30%
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EUT operating mode	5) Stand-by and dispensing cappuccino: set to maximum of coffee amount and coffee temperature.
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Monitoring	Checking of display and cappuccino cycle.
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Test points	
P1:	Front side metallic enclosure.
P2:	Coffee dispenser.
P3:	Steam/hot water tube.
P4:	Upper side metallic enclosure.
P5:	Left side metallic enclosure.
P6:	Right side metallic enclosure.
P7:	Control buttons and LEDs.
P8:	Display.
P9:	Left side plastic enclosure.
P10:	Right side plastic enclosure.
P11:	Rear side plastic enclosure.
P12:	Mains switch.

Direct discharges						
Test point	Discharge voltage	Contact / Air	Single discharge	Observed performance during the test	Performance criterion	Result
P1	4 kV	Contact	10+ and 10-	A ₁	B	OK
P2	4 kV	Contact	10+ and 10-	A ₁	B	OK
P3	4 kV	Contact	10+ and 10-	A ₁	B	OK
P4	4 kV	Contact	10+ and 10-	A ₁	B	OK
P5	4 kV	Contact	10+ and 10-	A ₁	B	OK
P6	4 kV	Contact	10+ and 10-	A ₁	B	OK
P7	8 kV	Air	10+ and 10-	A ₁	B	OK
P8	8 kV	Air	10+ and 10-	A ₁	B	OK
P9	8 kV	Air	10+ and 10-	A ₁	B	OK
P10	8 kV	Air	10+ and 10-	A ₁	B	OK
P11	8 kV	Air	10+ and 10-	A ₁	B	OK
P12	8 kV	Air	10+ and 10-	A ₁	B	OK

Indirect discharges						
Coupling plane	Discharge voltage	Contact/ Air	Single discharge	Performance during the test	Performance criterion	Result
Horizontal	4 kV	Contact	10+ and 10-	A ₁	B	OK
Vertical (front)	4 kV	Contact	10+ and 10-	A ₁	B	OK
Vertical (right)	4 kV	Contact	10+ and 10-	A ₁	B	OK
Vertical (rear)	4 kV	Contact	10+ and 10-	A ₁	B	OK
Vertical (left)	4 kV	Contact	10+ and 10-	A ₁	B	OK

Remark on observed performance
A ₁ : No observed reaction or changes.

Standard	Description	Result	Ref. Annex for details
EN 61000-4-4	Fast transients/burst	OK	Annex E

Ambient conditions	
Ambient temperature	23,5 °C
Relative humidity	34 %
Atmospheric pressure	972 mbar

Test supply conditions	
Test supply voltage	230 V
Test supply frequency	50 Hz
Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Burst generator	O.GEN007	EM TEST	UCS 500M4	V0724102603

Measurement uncertainty (normal distribution and confidence level of 95%)	Output voltage < ± 10%	Rise time < ±30%
	Impulse duration < ±30%	Burst durat./period < ±20%

EUT operating mode	6) Dispensing cappuccino: set to maximum of coffee amount and coffee temperature.
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Monitoring	Checking of display and cappuccino cycle.
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Port tested: AC power supply	Test level: 1 kV	Rep. rate: 5 kHz	Performance criterion: B
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Coupling	Test duration	Pol.	Observed performance during the test	Result	Test duration	Pol.	Observed performance during the test	Result
L-N-PE	2 min	+	A ₁	OK	2 min	-	A ₁	OK

Remark on observed performance
A ₁ : No observed reaction or changes.

Standard	Description	Result	Ref. Annex for details
EN 61000-4-5	Surges	OK	Annex F

Ambient conditions		Test supply conditions	
Ambient temperature	23,5 °C	Test supply voltage	230 V
Relative humidity	34 %	Test supply frequency	50 Hz
Atmospheric pressure	972 mbar	Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Surge generator	O.GEN007	EM TEST	UCS 500M4	V0724102603

Measurement uncertainty (normal distribution and confidence level of 95%)	Output voltage < ±10% Impulse duration < ±20% Rise time < ±30%	Output current < ±10% Impulse duration < ±20% Rise time < ±20%
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EUT operating mode	6) Dispensing cappuccino: set to maximum of coffee amount and coffee temperature.
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Monitoring	Checking of display and cappuccino cycle.
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Port tested: AC power supply	Test level: 1 kV	Rep. time: 20 sec	Performance criterion: B
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Coupling	N° imp	Pol.	Phase	Observed perform. during the test	Result	N° imp	Pol.	Phase	Observed perform. during the test	Result
L-N	5	+	0°	A ₁	OK	5	-	0°	A ₁	OK
L-N	5	+	90°	A ₁	OK	5	-	90°	A ₁	OK
L-N	5	+	180°	A ₁	OK	5	-	180°	A ₁	OK
L-N	5	+	270°	A ₁	OK	5	-	270°	A ₁	OK

Port tested: AC power supply	Test level: 2 kV	Rep. time: 20 sec	Performance criterion: B
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Coupling	N° imp	Pol.	Phase	Observed perform. during the test	Result	N° imp	Pol.	Phase	Observed perform. during the test	Result
N-PE	5	+	0°	A ₁	OK	5	-	0°	A ₁	OK
N-PE	5	+	90°	A ₁	OK	5	-	90°	A ₁	OK
N-PE	5	+	180°	A ₁	OK	5	-	180°	A ₁	OK
N-PE	5	+	270°	A ₁	OK	5	-	270°	A ₁	OK
L-PE	5	+	0°	A ₁	OK	5	-	0°	A ₁	OK
L-PE	5	+	90°	A ₁	OK	5	-	90°	A ₁	OK
L-PE	5	+	180°	A ₁	OK	5	-	180°	A ₁	OK
L-PE	5	+	270°	A ₁	OK	5	-	270°	A ₁	OK

Remark on observed performance
A ₁ : No observed reaction or changes.

Standard	Description	Result	Ref. Annex for details
EN 61000-4-6	RF Injected currents	OK	Annex G

Ambient conditions		Test supply conditions	
Ambient temperature	23,5 °C	Test supply voltage	230 V
Relative humidity	34 %	Test supply frequency	50 Hz
Atmospheric pressure	972 mbar	Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
RF Signal generator 9kHz ÷ 3GHz	O.GEN001	ROHDE & SCHWARZ	SML03	101500
10dB, 2W Attenuator	O.ATN001	Broad Wave	---	352-019-010
RF Amplifier 10kHz ÷ 250MHz	O.AMP002	AMPLIFIER RESEARCH	75A250	307436
6dB, 75W Attenuator	O.ATN005	Schaffner	ATN6075	11685
CDN M3 16A, 230MHz	O.REM005	Schaffner	CDN-M316S	19948

Measurement uncertainty (normal distribution)	3,4 dB (Output level EUT port)
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EUT operating mode	6) Dispensing cappuccino: set to maximum of coffee amount and coffee temperature.
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Monitoring	Checking of display and cappuccino cycle.
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Type of modulation: signal 80% amplitude modulated with a 1 kHz sine wave

Test parameters: dwell time = 2 sec with frequency steps of 1% of fundamental

Port tested	Test level	Frequency range	Observed perform. during the test	Performance criterion	Result
AC power port	3 V (unmodulated), $Z_{source} = 150 \Omega$	0,15 ÷ 230 MHz	A ₁	A	OK

Type of modulation: signal 80% amplitude modulated with a 1 kHz sine wave

Test parameters: dwell time = 3 min.

Port tested	Test level	Frequency	Observed perform. during the test	Performance criterion	Result
AC power port	3 V (unmod.), $Z_{source} = 150 \Omega$	150 kHz	A ₁	A	OK
AC power port	3 V (unmod.), $Z_{source} = 150 \Omega$	20 MHz	A ₁	A	OK
AC power port	3 V (unmod.), $Z_{source} = 150 \Omega$	40 MHz	A ₁	A	OK
AC power port	3 V (unmod.), $Z_{source} = 150 \Omega$	60 MHz	A ₁	A	OK
AC power port	3 V (unmod.), $Z_{source} = 150 \Omega$	80 MHz	A ₁	A	OK

Remark on observed performance
A ₁ : No observed reaction or changes.

Standard	Description	Result	Ref. Annex for details
EN 61000-4-11	Voltage dips and interruptions	OK	Annex H

Ambient conditions		Test supply conditions	
Ambient temperature	23,5 °C	Test supply voltage	230 V
Relative humidity	34 %	Test supply frequency	50 Hz
Atmospheric pressure	972 mbar	Rated Power	1400 W

Test Equipment	Id. code	Manufacturer	Model/Type	Serial Number
Voltage transient generator	O.GEN007	EM TEST	UCS 500M4	V0724102603

Measurement uncertainty (normal distribution and confidence level of 95%)	Output voltage $< \pm 5\%$ Change with load at the output of the generator $< \pm 5\%$	Phase relationship of voltage dips and interruptions with the power frequency $< \pm 10^\circ$
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EUT operating mode	6) Dispensing cappuccino: set to maximum of coffee amount and coffee temperature.
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Monitoring	Checking of display and cappuccino cycle.
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Rating	230 V – 50 Hz
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Function	Dur.	Test voltage (U_T)	Applied voltage	T rep.	Phase	T test
Interruptions	10 ms	230 V	0 V	10 s	0°/180°	2 min (12 rep)
Voltage dips 1	200 ms	230 V	92 V	10 s	0°/180°	2 min (12 rep)
Voltage dips 2	1000 ms	230 V	161 V	10 s	0°/180°	2 min (12 rep)

Event	Voltage dips	Test level	Durat.	Sequence	Phase	Observed perform. during the test	Perform. criterion	Result
Interrup.	100% U_T	0% U_T	0,5 T_{fond}	12 with interval of 10 s	0°/180°	B₁	C	OK
Voltage dips 1	60% U_T	40% U_T	10 T_{fond}	12 with interval of 10 s	0°/180°	B₂	C	OK
Voltage dips 2	30% U_T	70% U_T	50 T_{fond}	12 with interval of 10 s	0°/180°	B₂	C	OK

Remark on observed performance	
B₁: Motors speed reduction at each interruption. B₂: Motors speed reduction at each voltage dips.	

Section 3 – LIST OF COMPONENTS

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Supply power cord (European version) with:	---	---	---	---	---
- Plug	I-SHENG	SP-023	10/16A; 250V	---	VDE
- Cable	I-SHENG	H05VV-F	3x0.75mm ² or 3x1mm ²	---	HAR/VDE
- Cable connector	I-SHENG	IS-15	10A; 250V	---	VDE
Supply power cord (European version) with: (*)	---	---	---	---	---
- Plug	MINTEC	SP8848	16A; 250V	---	IMQ
- Cable	I-SHENG	H05VV-F	3x0.75mm ² or 3x1mm ²	---	HAR/VDE
- Cable (*)	NIGBO	H05VV-F	3x0.75mm ² or 3x1mm ²	---	HAR/VDE
- Cable connector	MINTEC	PW80	10A; 250V	---	IMQ
Supply power cord (Chinese version) with:	---	---	---	---	---
- Plug	QUEEN PUO	QP-012	10A; 250V	---	CCC (2010010201 412428)
- Cable	I-SHENG	RVV	3x1mm ²	---	CCC (2002010105 022384)
- Cable connector	QUEEN PUO	QP-018	10A; 250V	---	CCC (2010010204 419140)
- Cord set	QUEEN PUO	QP-012 + RVV + QP018	10A; 250V	---	CCC (2010010101 430475)
Supply power cord (Chinese version) with: (*)	---	---	---	---	---
- Plug	I-SHENG	SP-506A	10A; 250V	---	CCC (2004010201 136663)
- Cable	I-SHENG	RVV	3x1mm ²	---	CCC (2002010105 022384)

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
- Cable connector	I-SHENG	IS-15	10A; 250V	---	CCC (2002010204003981)
- Cord set	I-SHENG	SP-506A + RVV + IS-15	10A; 250V	---	CCC (2007010101232000)
Supply power cord (Australian version) with:	---	---	---	---	---
- Plug	I-SHENG	SP-502B	10A; 250V	---	Q88071
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	Q90033
- Cable connector	I-SHENG	IS-15	10A; 250V	---	Q95300
Supply power cord (Korean version) with:	---	---	---	---	---
- Plug	QUEEN PUO	QP-004	16A; 250V	---	KTL
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	KTL
- Cable connector	QUEEN PUO	QP-018	10A; 250V	---	VDE
Supply power cord (Korean version) with: (*)	---	---	---	---	---
- Plug	I-SHENG	SP-023	16A; 250V	---	KTL
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	KTL
- Cable connector	I-SHENG	IS-15	10A; 250V	---	KTL
Supply power cord (Korean version) with: (*)	---	---	---	---	---
- Plug	CHAU'S	KR-502	10A; 250V	---	KTL
- Cable	CHAU'S	H05VV-F	3x1mm ²	---	KTL
- Cable connector	CHAU'S	KR-601	10A; 250V	---	KTL
Supply power cord (Brazilian version) with:	---	---	---	---	---
- Plug	I-SHENG	SP-027A	10A; 250V	---	INMETRO

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	HAR/VDE
- Cable connector	I-SHENG	IS-15	10A; 250V	---	TUV
Supply power cord (Brazilian version) with: (*)	---	---	---	---	---
- Plug	QUEEN PUO	QP-084	10A; 250V	---	INMETRO
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	HAR/VDE
- Cable connector	QUEEN PUO	QP-018	10A; 250V	---	VDE
Supply power cord (Brazilian version) with: (*)	---	---	---	---	---
- Plug	CHAU'S	BR-507	12A; 250V	---	INMETRO
- Cable	CHAU'S	H05VV-F	3x1mm ²	---	HAR/VDE
- Cable connector	CHAU'S	CE-601R	10A; 250V	---	VDE
Supply power cord (UK version) with: (*)	---	---	---	---	---
- Plug	I-SHENG	SP-62	13A; 250V + fuse	---	BSI
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	HAR/VDE
- Cable connector	I-SHENG	IS-15	10A; 250V	---	VDE
Supply power cord (UK version) with: (*)	---	---	---	---	---
- Plug	QUEEN PUO	QP-026	13A; 250V + fuse	---	BSI
- Cable	I-SHENG	H05VV-F	3x1mm ²	---	HAR/VDE
- Cable connector	MINTEC	PW80 or QP-018	10A; 250V	---	VDE
Appliance inlet	INALWAYS	0711	10A; 250V	On enclosure	ENEC-16 (260311-1b)
Appliance inlet (*)	EVEREL (KAUTT & BUX)	STS350A1W	10A; 250V	On enclosure	ENEC-05 (2143996.01)
Mains switch	ARCOLECTRIC	1250AR	10(6)A; 250V	On enclosure	ENEC-15 (ENEC-148078-03)

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Mains switch (*)	MARQUARDT	155	16(4)A; 250V	On enclosure	ENEC-05 (2137815.01)
Electronic power board with:	SAECO	HW Cod. 421941222001	220-240V; 50/60Hz; 6.5A; V0 material	Inside	---
- Flyback switching transformer	PULSE ADDRESS: 1210 NORTHBROOK DRIVE SUITE 470 TREVISO, PA 19053 UNITED STATES	Cod. 190500100	W1 and W4 in Cl. F; W2 and W3 in Cl. E	On electronic power board	---
- Flyback switching transformer (*)	TDK ADDRESS: 1-13-1, NIHONBASHI, CHUO-KU, TOKYO 103-8272, JAPAN	Cod. 190500100	W1 and W4 in Cl. F; W2 and W3 in Cl. E	On electronic power board	---
- Flyback switching transformer (*)	COMELIT ADDRESS: VIA MAESTRI DEL LAVORO1 I-60022 CASTELFIDARD O (AN) ITALY	Cod. 190500100	W1 and W4 in Cl. F; W2 and W3 in Cl. E	On electronic power board	---
- Flyback switching transformer (*)	CALTRON VIA PIO LA TORRE, 6/8 - 60022 CASTELFIDARDO (AN) ITALY	Cod. 190500100	W1 and W4 in Cl. F; W2 and W3 in Cl. E	On electronic power board	---
- Fuse F1	LITTELFUSE	215 002.XEP	250V; 2A	On electronic power board	VDE (40013521)
- Fuse F1 (*)	SHURTER	0001.2507.PT (SPT series)	250V; 2A	On electronic power board	VDE (139234)
- Fuse F3	LITTELFUSE	215 008.XEP	250V; 8A	On electronic power board	VDE (40013521)
- Fuse F3 (*)	SHURTER	0001.2513.PT (SPT series)	250V; 8A	On electronic power board	VDE (40014395)
Electronic CPU-Key board	SAECO	HW Cod. 421941250851	24Vdc; 2.4A; V0 material (low voltage circ.)	Inside	---

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Display	SAECO	Cod. 421940223221	5Vdc; 0.010A (low voltage circ.)	Inside	---
Electronic jug milk presence sensor	SAECO	Cod. 421941206191	5Vdc; 1mA (low voltage circ.)	Inside	---
Electronic water tank level sensor	SAECO	Cod. 421941145111	5Vdc; 1mA (low voltage circ.)	Inside	---
Electronic water tank level sensor (*)	SAECO	Cod. 421941160691	5Vdc; 1mA (low voltage circ.)	Inside	---
Electronic drip tray level sensor	SAECO	Cod. 421941145111	5Vdc; 1mA (low voltage circ.)	Inside	---
Electronic drip tray level sensor (*)	SAECO	Cod. 421941160691	5Vdc; 1mA (low voltage circ.)	Inside	---
N° 5 Electro-valves emulsifier system	R.P.E. S.R.L. ADDRESS: VIA S. AMBROGIO 22070 CARBONATE (CO)	Cod. 421941203251	24Vdc; 11.8W; Cl. F	Inside	---
Safety electro-valve coffee hydraulic circuit	R.P.E. S.R.L. ADDRESS: VIA S. AMBROGIO 22070 CARBONATE (CO)	Cod. 421941149381	230V; 50/60Hz; 11.1VA; Cl. F	Inside	---
Safety electro-valve coffee hydraulic circuit (*)	CALTRON VIA PIO LA TORRE, 6/8 - 60022 CASTELFIDARDO (AN) ITALY	Cod. 421941149381	230V; 50/60Hz; 11.1VA; Cl. F	Inside	---
Safety electro-valve coffee hydraulic circuit (Korean, Brazilian version) (*)	R.P.E. S.R.L. ADDRESS: VIA S. AMBROGIO 22070 CARBONATE (CO)	Cod. 421941186691	220V; 60Hz; 12.1VA; Cl. F	Inside	---
Safety electro-valve coffee hydraulic circuit (Korean, Brazilian version) (*)	CALTRON VIA PIO LA TORRE, 6/8 - 60022 CASTELFIDARDO (AN) ITALY	Cod. 421941186691	220V; 60Hz; 12.1VA; Cl. F	Inside	---
Reed sensor (door)	MEDER	MK3-1A66-BV	5Vdc; 1mA (low voltage circ.)	Inside	---
Reed sensor (door) (*)	PIC	MS-218A/947	5Vdc; 1mA (low voltage circ.)	Inside	---

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Reed sensor (dreg-drawer)	MEDER	MK3-1A66-BV	5Vdc; 1mA (low voltage circ.)	Inside	---
Reed sensor (dreg-drawer) (*)	PIC	MS-218A/947	5Vdc; 1mA (low voltage circ.)	Inside	---
Reed sensor (coffee container)	MEDER	MK3-1A66-BV	5Vdc; 1mA (low voltage circ.)	Inside	---
Reed sensor (coffee container) (*)	PIC	MS-218A/947	5Vdc; 1mA (low voltage circ.)	Inside	---
Micro-switch (proximity group)	SAIA	XCG5-81-P5	0.3A; 30V (low voltage circ.)	Inside	ENEC-15 (ENEC-00146)
Micro-switch (proximity group) (*)	BITRON	M5	3(3)A; 250V (low voltage circ.)	Inside	VDE (40007171)
Micro-switch (proximity group) (*)	CROUZET	83170.8	0.1(0.04)A; 250V (low voltage circ.)	Inside	ENEC-08 (605953)
Micro-switch (proximity group) (*)	ZIPPY	SM1	5A; 250V (low voltage circ.)	Inside	ENEC-14 (SE/0033-71)
Micro-switch (proximity group) (*)	CHERRY	DB3	0,1A; 250V (low voltage circ.)	Inside	ENEC-05 (2128186.02)
Micro-switch (group position home-work)	SAIA	XCG5-81-P5	0,3A; 30V (low voltage circ.)	Inside	ENEC-15 (ENEC-00146)
Micro-switch (group position home-work) (*)	BITRON	M5	3(3)A; 250V (low voltage circ.)	Inside	VDE (40007171)
Micro-switch (group position home-work) (*)	CROUZET	83170.8	0.1(0.04)A; 250V (low voltage circ.)	Inside	ENEC-08 (605953)
Micro-switch (group position home-work) (*)	ZIPPY	SM1	5A; 250V (low voltage circ.)	Inside	ENEC-14 (SE/0033-71)
Micro-switch (group position home-work) (*)	CHERRY	DB3	0.1A; 250V (low voltage circ.)	Inside	ENEC-05 (2128186.02)
Flow meter	DIGMESA	FHKSC	5Vdc; 4mA; 1.2 ARNITE OC (low voltage circ.)	Inside	---
Flow meter (*)	DEFOND	AB32	5Vdc; 4mA (low voltage circ.)	Inside	---
Flow meter (*)	AWECO	C9000	5Vdc; 4mA; (low voltage circ.)	Inside	---

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
N° 2 Slim boilers with:	SAECO	Cod. 421941207681	220-240V; 50/60Hz; 6A	Inside	---
- Heating element	KANETA ELECTROHEAT TECHNOLOGIES LTD ADDRESS: UNIT A, 15/F BILLION PLAZA, 8 CHEUNG YUE STREET, KOWLOON, HONG KONG	Cod. 421941207451	1300W; 230V	On boiler	---
- Heating element (*)	IRCA S.P.A. ADDRESS: VIALE VENEZIA, 31 31020 - SAN VENDEMIANO TREVISO (TV)	Cod. 421941207451	1300W; 230V	On boiler	---
- N° 1 Self-resetting thermal cut-out (<u>side only on coffee boiler</u>)	SENSATA	1NT01L	16A; 240V; T. Open 150°C (automatic reset)	On boiler	ENEC-05 (2014531.16)
- N° 1 Self-resetting thermal cut-out (<u>side only on coffee boiler</u>) (*)	ASAHI	US-625	16A; 240V; T. Open 150°C (one shot)	On boiler	VDE (40027110)
- N° 1 Self-resetting thermal cut-out (<u>side only on steam boiler</u>)	SENSATA	1NT01L	16A; 240V; T. Open 170°C (automatic reset)	On boiler	ENEC-05 (2014531.16)
- N° 1 Self-resetting thermal cut-out (<u>side only on steam boiler</u>) (*)	ASAHI	US-625	16A; 240V; T. Open 170°C (manual reset)	On boiler	VDE (40027110)
- N° 1 Non-self-resetting thermal cut-out (<u>side on coffee boiler and steam boiler</u>)	SENSATA	1NT09L	16A; 240V; T. Open 204°C (one shot)	On boiler	ENEC-05 (2014531.16)

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
- N° 1 Non-self-resetting thermal cut-out (side on coffee boiler and steam boiler) (*)	ASAHI	US-625	10A; 250V; T. Open 204°C (one shot)	On boiler	VDE (40036752)
- N° 2 Non-self-resetting thermal cut-outs (side on coffee boiler and steam boiler) (*)	SENSATA	1NT08L	16A; 240V; T. Open 175°C (manual reset)	On boiler	ENEC-05 (2014531.16)
- N° 2 Non-self-resetting thermal cut-outs (side on coffee boiler and steam boiler) (*)	SENSATA	1NT09L	16A; 240V; T. Open 175°C (one shot)	On boiler	ENEC-05 (2014531.16)
- N° 2 Non-self-resetting thermal cut-outs (side on coffee boiler and steam boiler) (*)	SENSATA	1NT09L	16A; 240V; T. Open 190°C (one shot)	On boiler	ENEC-05 (2014531.16)
- N° 2 Non-self-resetting thermal cut-outs (side on coffee boiler and steam boiler) (*)	ASAHI	US-625	10A; 250V; T. Open 190°C (one shot)	On boiler	VDE (40036752)
- Temperature sensor	GE THERMOMETRICS	JS7047 or JS6464	5Vdc; 10mA (low voltage circ.)	On boiler	---
- Temperature sensor (*)	SHIBAURA	E1M-51F	5Vdc; 10mA (low voltage circ.)	On boiler	---
- Temperature sensor (*)	EPCOS	K514/49K/3% or K504/49K/A2	5Vdc; 10mA (low voltage circ.)	On boiler	---
- Temperature sensor (*)	THERMODISC	11J1B0206	5Vdc, 10mA (low voltage circ.)	On boiler	---

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Hot water/steam pump (European, Chinese, Brazilian and Australian version) with:	ULKA	HF	22W; 230V; 50Hz; Cl. F	Inside	VDE (40038503)
Hot water/steam pump (Korean and Chinese version) with: (*)	ULKA	HF	26W; 220V; 50/60Hz; Cl. F	Inside	---
Coffee pump (European, Chinese, Brazilian and Australian version) with:	ODE (HK) CO. LTD OR DEFOND COMPONENTS LIMITED	Phoenix-50 A2P	53W; 220-240V; 50Hz; Cl. H	Inside	VDE (40019730)
Coffee pump (European, Chinese, Brazilian and Australian version) with: (*)	ODE (HK) CO. LTD OR DEFOND COMPONENTS LIMITED	P500U	53W; 220-240V; 50Hz; Cl. H	Inside	VDE (40028921)
Coffee pump (European, Chinese, Brazilian and Australian version) with: (*)	ULKA	EX5GW or EP5GW	48W; 230V; 50Hz; Cl. 155	Inside	VDE (40038656)
Coffee pump (European, Chinese, Brazilian and Australian version) with: (*)	ULKA	EP5FMGW/SP	48W; 230V; 50Hz; Cl. 155	Inside	VDE (40038656)
Coffee pump (Korean and Brazilian version) with: (*)	ULKA	EX5GW or EP5GW	220V; 60Hz; 64W; Cl. F	Inside	---
- Thermal cut-out	SENSATA	2MM	4.0(1.5)A; 250V; T. Open 120°C	On pump	ENEC-05 (2014531.06)
- Thermal cut-out (*)	UCHIYA	UP72	2.5(1.6)A; 250V; T. Open 120°C	On pump	VDE (40023061)

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
- Thermal cut-out (*)	LIMITOR GMBH	P57 or P59	2.5(1.6)A; 250V; T. Open 120°C	On pump	VDE (40008564)
- Thermal cut-out (*)	JIANGSU CHANGSHENG ELECTRIC APPLIANCE CO. LTD	BR-B2D	6A; 250V; T. Open 110°C or T. Open 120°C	On pump	VDE (132813)
Dispenser motor	NUOVA SME S.P.A. ADDRESS: VIA IV NOVEMBRE, 30 12025 - DRONERO (CN)	FC230/521GW or D3159	24Vdc; 20W; Cl. H	Inside	---
Dispenser motor (*)	KINDLY INDUSTRIAL CO. LTD ADDRESS: PLAT 5, 14/F. BLOCK A. 14-20 CHEUNG TAI ROAD, TSING, HONG KONG	KFC545S-16205	24Vdc; 20W; Cl. F	Inside	---
Dispenser motor (*)	SHENZHEN WEIZHEN MOTOR CO. LTD ADDRESS: WEIZHEN INDUSTRIAL PARK, ZHONGHA 518129 SHENZHEN- GUANGDONG CINA	36LYT2437A	24Vdc; 20W; Cl. F	Inside	---
Grinder motor with:	IME S.P.A. IND. MOTORI ELETTRICI ADDRESS: VIA ENRICO FERMI ,41 25025 MANERBIO BRESCIA	100724	230Vdc; input power: 180W; output power: 90W; Cl. B; S3: 1min on, 1min off	Inside	---

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
Grinder motor with: (*)	IME S.P.A. IND. MOTORI ELETTRICI ADDRESS: VIA ENRICO FERMI, 41, 25025 MANERBIO BRESCIA	100733	230Vdc; input power: 220W; output power: 90W; Cl. B; S3: 1min on, 1min off	Inside	---
Grinder motor with: (*)	DOMEL D.D. ADDRESS: OTOKI, 21, 4228 ZELEZNIKJ, SLOVENIA	482.3.531	230Vdc; input power: 180W; output power: 90W; Cl. F; S3: 1min on, 1min off	Inside	---
Grinder motor with: (*)	SHENZHEN WEIZHEN MOTOR CO. LTD ADDRESS: WEIZHEN INDUSTRIAL PARK, ZHONGHA 518129 SHENZHEN- GUANGDONG CINA	Cod. CR097JSDR001	230Vdc; input power: 115W; output power: 60W; Cl. H; S3: 1min on, 1min off	Inside	---
- Electronic grinder rotary sensor (°)	SAECO	Cod. 421941097231	5Vdc; 1mA (low voltage circ.)	On grinder motor	---

(*) Alternative use component;

(°) Optional component.

SUPPRESSION COMPONENTS

Object / part No.	Manufacturer / trademark	Type / model	Technical data	Location	Mark(s) of conformity
N° 2 RFI Capacitors	VISHAY	WK0222MCPC Y0K	2.2nF; 300V; Y2	On dispenser motor	VDE (136820)
N° 2 RFI Capacitors (*)	KEKO VARICON	KM 2.2 nF M 2E3 300 Y2	2.2nF; 300V; Y2	On dispenser motor	VDE (126576)
N° 2 RFI Capacitors (*)	SHAANXI HUAXING	CT7Y2B15a22 2KB	2.2nF; 250V; Y2	On dispenser motor	VDE (133203)
N° 2 RFI Capacitors (*)	MURATA	DE2E3KH222 MB3BLC2	2.2nF; 250V; X1Y2	On dispenser motor	VDE (40002796)
N° 2 RFI Capacitors (*)	EVOX RIFA	ERO610RJ422 0M	2.2nF; 250V; Y2	On dispenser motor	VDE (40001990)
N° 2 RFI Capacitors (*)	MURATA	DE2E3KY222 MB3BM02	2.2nF; 250V; X1Y2	On dispenser motor	VDE (40006273)
N° 2 RFI Capacitors (*)	VISHAY	VY2222M35Y 5US6	2.2nF; 300V; Y2	On dispenser motor	VDE (40009669)
N° 2 RFI Capacitors (*)	VISHAY	WYO222MCM CF0KR	2.2nF; 250V; Y2	On dispenser motor	VDE (133769)
N° 2 RFI Capacitors (*)	WELSON	KLF222MY2	2.2nF; 250V; Y2	On dispenser motor	VDE (116772)
N° 2 RFI Chokes	COGEMA	RCO621	15μH; 2A	On dispenser motor	VDE (116539)
N° 2 RFI Chokes (*)	MATSUTA	AL4015-150K	15μH; 2A	On dispenser motor	---
N° 2 RFI Capacitors	VISHAY	WK0222MCPC Y0K	2.2nF; 300V; Y2	On grinder motor	VDE (136820)
N° 2 RFI Capacitors (*)	KEKO VARICON	KM 2.2 nF M 2E3 300 Y2	2.2nF; 300V; Y2	On grinder motor	VDE (126576)
N° 2 RFI Capacitors (*)	SHAANXI HUAXING	CT7Y2B15a22 2KB	2.2nF; 250V; Y2	On grinder motor	VDE (133203)
N° 2 RFI Capacitors (*)	MURATA	DE2E3KH222 MB3BLC2	2.2nF; 250V; X1Y2	On grinder motor	VDE (40002796)
N° 2 RFI Capacitors (*)	EVOX RIFA	ERO610RJ422 0M	2.2nF; 250V; Y2	On grinder motor	VDE (40001990)
N° 2 RFI Capacitors (*)	MURATA	DE2E3KY222 MB3BM02	2.2nF; 250V; X1Y2	On grinder motor	VDE (40006273)
N° 2 RFI Capacitors (*)	VISHAY	VY2222M35Y 5US6	2.2nF; 300V; Y2	On grinder motor	VDE (40009669)
N° 2 RFI Capacitors (*)	VISHAY	WYO222MCM CF0KR	2.2nF; 250V; Y2	On grinder motor	VDE (133769)
N° 2 RFI Capacitors (*)	WELSON	KLF222MY2	2.2nF; 250V; Y2	On grinder motor	VDE (116772)

(*) Alternative use component

Section 4 – PHOTOS



Photo 1: View of EUT type SUP 046DG

GAGGIA ^A GAGGIA NL9206AD – 4 Drachten TYPE : SUP 046DG 220 V ~ 50 Hz 1300 W SERIAL Nr. TU901637020355 DATE : 37/2016 MADE IN ITALY	GAGGIA ^A GAGGIA NL9206AD – 4 Drachten TYPE : SUP 046DG 220 V ~ 60 Hz 1300 W SERIAL Nr. TU901637020356 DATE : 37/2016 MADE IN ITALY
GAGGIA ^A GAGGIA NL9206AD – 4 Drachten TYPE : SUP 046DG 230 V ~ 50 Hz 1400 W SERIAL Nr. TU901637020358 DATE : 37/2016 MADE IN ITALY CE 	GAGGIA ^A GAGGIA NL9206AD – 4 Drachten TYPE : SUP 046DG 240 V ~ 50 Hz 1500 W SERIAL Nr. TU901637020359 DATE : 37/2016 MADE IN ITALY
GAGGIA ^A GAGGIA NL9206AD – 4 Drachten TYPE : SUP 046DG 220–240 V ~ 50/60 Hz 1400 W SERIAL Nr. TU901637020354 DATE : 37/2016 MADE IN ITALY	

Photos 2 - 6: Marking plates of type SUP 046DG