

Prepared for:

Shenzhen Hui Qi Mei Technology Co., Ltd.

301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China

Product:	Humidifier
Model Name:	HM01
Trade Name:	N/A up to the part of the part
Date of Test:	From September 23, 2021 to October 14, 2021
Date of Report:	October 14, 2021
Report Number:	HK2109183881-1RR

Prepared by:

Shenzhen HUAK Testing Technology Co., LTD.

1-2/F.,BuildingB2,JunfengZhongchengZhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

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Applicant:	Shenzhen Hui Qi Mei Technology Co., Ltd.	
Address:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community Longgang District, Shenzhen, China	v, Longcheng Street,
Manufacturer:	Shenzhen Hui Qi Mei Technology Co., Ltd.	
Address:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community Longgang District, Shenzhen, China	v, Longcheng Street,
The following sample was	submitted and identified by/on behalf of the client	as:
Sample Name:	Humidifier	
Model No. :	HM01	
Trade Name:	N/A	
Sample Receiving Date:	September 23, 2021	
Testing Period:	From September 23, 2021 to October 14, 2021	
Results:	Please refer to next page(s).	
summary of Test Results:	***************************************	*******

According to customer's requirements, Split the sample and determine the Pb, Cd, Hg, Cr(VI), PBBs & PBDEs, DBP, BBP, DEHP, DIBP content of the parts.

Conclusion:

Approved by

Test Requested:

Base upon the performed tests by submitted sample, the test results comply with the limits as set by Directive (EU) 2015/863 - Amendment of EU RoHS Directive 2011/65/EU (RoHS 2.0) Annex II.

Signed for and on behalf of HUAK

Lab Manager

Remark: Only selected materials were tested as per client's requirement.

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Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Testing Laboratory Authorization:
A2LA Accreditation Code is 4781.01.
FCC Designation Number is CN1229.
Canada IC CAB identifier is CN0045.
CNAS Registration Number is L9589.

CPSC Certification Number is 1710.

Test Method:

- 1. Sample prepared with reference to IEC 62321-2:2013
- 2. Sample Screening testing with reference to IEC 62321-3-1:2013
- 3. Wet Chemical Test Method
 - a. Determination of Lead, Cadmium by ICP-OES with reference to IEC 62321-5:2013
 - b. Determination of Mercury by ICP-OES with reference to IEC 62321-4:2013+AMD1:2017
 - c. Determination of Hexavalent Chromium in colourless and coloured corrosion-protected coatings on metals by UV-VIS method reference to IEC 62321-7-1:2015
 - d. Determination of Hexavalent Chromium in polymers and electronics by UV-Vis Method with reference to IEC 62321-7-2:2017.
 - e. Determination of PBBs and PBDEs by GC-MS with reference to IEC 62321-6:2015
 - f. Determination of DBP, BBP, DEHP and DIBP by GC-MS with reference to IEC 62321-8:2017

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estres		HU.	CO HO.	Posult of	CO HOM
Part No.	Part Name	Restricted Substances	Result of EDXRF (1)	Chemical Testing (2) (mg/kg)	Conclusion on RoHS
	O HUM	Pb	BL		Comply
		Cd	BL	AK TESTING	Comply
	THE STINE	Hg	BL	HUM	Comply
	HUAKTL	Cr(VI)	BL	HUAKTES	Comply
1	Black plastic sheet	PBBs	BL		Comply
I	Diack plastic sheet	PBDEs	BL		Comply
	3 TESTING	DBP	TESTING	N.D.	Comply
	HUAKTL	BBP	HUAKTE	N.D.	Comply
		DEHP		N.D.	Comply
	TNG	DIBP		N.D.	Comply
	HUAKTESI	Pb	BL	O ¹⁰	Comply
		Cd	BL	mic	Comply
		Hg	BL	HUAKTESIN	Comply
	TING AN TESTING	Cr(VI)	BL	TESTIN	Comply
HUAN	White plactic ^(R)	PBBs	BL	HUAN.	Comply
2		PBDEs	BL		Comply
	a a a a a a a a a a a a a a a a a a a	DBP		N.D.	Comply
	MAKTESTIN	BBP	ALANTESTIN	N.D.	Comply
	O H	DEHP	O ¹¹⁰	N.D.	Comply
		DIBP		N.D.	Comply
	TESTING	Pb	BL	HUAK	Comply
	O HUAN	Cd	BL		Comply
		Hg	BL	K TESTING	Comply
	TING STING	Cr(VI)	BL 🕥	HUAN	Comply
2 AK TE	The brown helt	PBBs	BL	HUAKTEST	Comply
0.0		PBDEs	BL		Comply
		DBP		N.D.	Comply
	S	BBP	TESTING	N.D.	Comply
	HUAKIL	DEHP	HUAKIL	N.D.	Comply
		DIBP		N.D.	Comply

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Part No.	Part Name	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS
	O HUAN	Pb	BL		Comply
M2		Cd	BL	AKTESTING	Comply
	TING CSTING	Hg	BL	HUM	Comply
HUAKTE	HUAKIL	Cr(VI)	HUAN BL	HUAKTES	Comply
4	Silver to white	PBBs	IN	N.D.	Comply
-	plastic	PBDEs	IN	N.D.	Comply
TESTIN	3 TESTING	DBP	TESTING	N.D.	Comply
HUAK	HUAKIL	BBP	HUAK	N.D.	Comply
6	<u> </u>	DEHP		N.D.	Comply
ALTESTING	ang	DIBP	and the	N.D.	Comply
	HUAKTESI	Pb	JAK TEST BL	O ¹⁰	Comply
all a	0.	Cd	BL		Comply
		Hg	BL	HUAKTESI.	Comply
TE	TING WAY TESTING	Cr(VI)	BL	TESTIN	Comply
D HUAN	White transparent	PBBs	BL	HUAN.	Comply
5	plastic	PBDEs	BL		Comply
	9	DBP		N.D.	Comply
I LAK TESTIN	I LAK TESTING	BBP	I LAN TESTING	N.D.	Comply
Bhe	O ^m	DEHP	O	N.D.	Comply
CSTING		DIBP		N.D.	Comply
PACIT	K TESTING	Pb	BL	HUAK	Comply
	O HUAT	Cd 🕥	BL		Comply
ING .		Hg	BL	W TESTING	Comply
	TING STING	Cr(VI)	IN S	N.D.	Comply
6	Silver metal screw	PBBs	HUAKTE	HUAKTEST	NA
0.		PBDEs	<u> </u>		NA
		DBP			NA
ESTIN	3 CSTING	BBP			NA
HUAKIL	HUAKIL	DEHP	HUAKIL	HOWNELL	NA
		DIBP	····	w	[™] NA

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Part No.	Part Name	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS
	C HUAN	Pb	BL		Comply
G		Cd	BL	K TESTING	Comply
	THE STAR	Hg	BL 🕥	HUAN	Comply
HUAKTE	HUAKTEL	Cr(VI)	HUNKBL	HUAKTEST	Comply
~	Black wire cover ^(R)	PBBs	BL		Comply
	Didek wire cover	PBDEs	BL		Comply
TESTIN	3 TESTING	DBP	TESTING	N.D.	Comply
HUAK	HUAK	BBP	HUAK	N.D.	Comply
r. 		DEHP		N.D.	Comply
K TESTINC	and	DIBP	-1015-	N.D.	Comply
	HUAKTESIL	Pb	MATES BL	O ⁺⁺⁻	Comply
G	0	Cd	BL		Comply
		Hg	BL	HUAK TES	Comply
VIE	STING LAK TESTING	Cr(VI)	BL	TESTIN	Comply
C HUAN	Red wire cheath ^(R)	PBBs	BL	HUAN.	Comply
8	Red wire sheath	PBDEs	BL		Comply
	D/a 6	DBP	G	N.D.	Comply
ILAK TESTIN	MAKTESTIN	BBP	"IANTESTIN	N.D.	Comply
he	0	DEHP	O ***	N.D.	Comply
-csTING		DIBP		N.D.	Comply
t. C	TESTING	Pb	BL	HUAK 1-	Comply
	C HUAN	Cd	BL		Comply
G		Hg	BL	K TESTING	Comply
	ING STING	Cr(VI)	BL 🔍 🍈	HUAN	Comply
WAK TE	Pleak DCP	PBBs	HUM IN	N.D.	Comply
9	DIACK FCD	PBDEs	IN	N.D.	Comply
		DBP		N.D.	Comply
TESTIN	G TESTING	BBP	TESTING	N.D	Comply
HUAK	HUAKI	DEHP	HUAK	N.D.	Comply
- G		DIBP		N.D.	Comply
TESTIN		TESTIN		TESTIN	

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HUA	Part No.	Part Name	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS
~		O HUAN	Pb 🌒	BL		Comply
TESTI			Cd	BL	K TESTING	Comply
		ING STING	Hg	BL 💿	HUAN	Comply
		HUAK TES	Cr(VI)	BL	- HUAK TEST	Comply
	10	Silver metal solder	PBBs	<u> </u>	Q . 1	NA
	10	joints	PBDEs			NA
		3 CTING	DBP			NA
100		HUAKTES	BBP	HUAKTES	HUNKTES	NA
C.		0	DEHP	····	©	NA
	TESTING		DIBP		TESTING	NA
HUP		AKTESTING	Pb	BL	HUAN	Comply
		O HUM	Cd	BL		Comply
TESTI			Hg	BL	AK TESTING	Comply
		TING STING	Cr(VI)	BL 🔍 🌑		Comply
	ANJAK TE	Black DCB	PBBs	IN	N.D.	Comply
		DIACKICD	PBDEs	IN	N.D.	Comply
			DBP		N.D.	Comply
		S	BBP		N.D.	Comply
63		HUAKTL	DEHP	HUAKTE	N.D.	Comply
0			DIBP		N.D.	Comply
	K TESTING	BIG	Pb	BL	UNK TESTING	Comply
D HD.		WAKTESTIL	Cd	MK TESTINE BL	O HD	Comply
		0"	Hg	BL	-016	Comply
TEST			Cr(VI)	BL	WAK TESTIN.	Comply
	10	Silver metal solder	PBBs	TESTING O		NA
	12	joints	PBDEs	HUAN	HUAKIL	NA
			DBP		W	NA
			BBP			NA
		a TESTING	DEHP	TESTING	TESTING	NA
8	HUAN	HUAN	DIBP	HUAN	-ulan	NA

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Part No.	Part Name	Restricted Substances	Result of EDXRF (1)	Result of Chemical Testing (2) (mg/kg)	Conclusion on RoHS
	MAKTESTING	Pb	BL	O HUM	Comply
G	One	Cd	BL		Comply
		Hg	BL	AUAK TESTIN	Comply
Æ	STING KTESTING	Cr(VI)	BL ^{MG}	TESTIN	Comply
12	White conductor	PBBs	BL	HUAK	Comply
1 3	sleeve ^(R)	PBDEs	BL		Comply
		DBP		279	Comply
NK TESTIN	AKTESTING	BBP	NKTESTING	N.D.	Comply
HUM	O HUL	DEHP	O HUM	N.D.	Comply
TING		DIBP		N.D.	Comply

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(1) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr⁶⁺.

(b)Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr⁶⁺) and GC/MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	BL≤(70-3σ) <x<(130+3σ) ≤OL</x<(130+3σ) 	BL≤(70-3σ) <x<(130+3σ) ≤OL</x<(130+3σ) 	LOD <x<(150+3σ) td="" ≤ol<=""></x<(150+3σ)>
Pb	BL≤(700-3σ) <x<(1300+3σ) ≤OL</x<(1300+3σ) 	BL≤(700- 3σ) <x<(1300+3σ) td="" ≤ol<=""><td>BL≤(500- 3σ)<x<(1500+3σ) td="" ≤ol<=""></x<(1500+3σ)></td></x<(1300+3σ)>	BL≤(500- 3σ) <x<(1500+3σ) td="" ≤ol<=""></x<(1500+3σ)>
Hg	BL≤(700-3σ) <x<(1300+3σ) ≤OL</x<(1300+3σ) 	BL≤(700- 3σ) <x<(1300+3σ) td="" ≤ol<=""><td>BL≤(500- 3σ)<x<(1500+3σ) td="" ≤ol<=""></x<(1500+3σ)></td></x<(1300+3σ)>	BL≤(500- 3σ) <x<(1500+3σ) td="" ≤ol<=""></x<(1500+3σ)>
M ^G Br	BL≤(300-3σ)<Χ		BL≤(250-3σ)<Χ
Cr	BL≤(700-3σ)<Χ	BL≤(700-3σ)<Χ	BL≤(500-3σ)<Χ

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection,

-- = Not Regulated, NA = Not Applicable.

- (d) The XRF screening test for RoHS elements The reading may be different to the actual content in the sample be of non-uniformity composition.
- (2) (a) 1mg/kg = 1ppm = 0.0001%, N.D.= Not Detected (<MDL), --- = Not Conducted.
 - (b) Unit and Method Detection Limit (MDL) in wet chemical test

Test Items	Pb	Cd	Hg Hg
Units 🤎	mg/kg	mg/kg	mg/kg
MDL	2 1551116	2	155TMG 2

The MDL for single compound of PBBs & PBDEs is 5 mg/kg, MDL of Cr⁶⁺ for polymer & composite sample is 2 mg/kg and MDL of DBP, BBP, DEHP and DIBP is 30mg/kg.

- (c) When Cr⁶⁺ for metal sample is testing according to IEC 62321-7-1:2015, the unit is µg/cm², and the MDL is 0,10 µg/cm². When the Cr (VI) concentration is > the 0,13 µg/cm², the sample is positive for Cr(VI) and considered to contain Cr(VI); when the Cr (VI) concentration is N.D.(< the 0,10 µg/cm²), the sample is negative for Cr(VI) and considered a non-Cr(VI) based coating; when the Cr (VI) concentration is ≥ the 0,10 µg/cm² and ≤ the 0,13 µg/cm², the result is considered to be inconclusive
 - Unavoidable coating variations may influence the determination.

^(R)=Re-submitted sample.

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(3) The maximum permissible limit is quoted from the Directive (EU) 2015/863 - Amendment of EU RoHS Directive 2011/65/EU (RoHS 2.0) Annex II.

RoHS Restricted Substances Maximum Concentration Va (by weight in homogenous mat		
Lead (Pb) 0.1%		
Cadmium (Cd)	0.01%	
Mercury (Hg)	0.1%	TESTING
Hexavalent Chromium (Cr VI)	0.1%	HUM
Polybrominated biphenyls (PBBs)	0.1%	
Polybrominated diphenylethers (PBDEs)	0.1%	
Dibutyl Phthalate (DBP)	0.1%	KTESTI
Benzylbutyl Phthalate (BBP)	0.1%	DHUM
Bis-(2-ethylhexyl) Phthalate (DEHP)	0.1%	
Diisobutyl Phthalate (DIBP)	0.1%	STING
		100

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Exemptions

RoHS Directive 2011/65/EU ANNEX III	
Exemption Items	Expires Date
1, Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	W TESTING
1(a), For general lighting purposes < 30 W:3,5 mg	2,5 mg shall be used per burner after 31 December 2012
1(b), For general lighting purposes≥ 30 W and < 50W:3,5mg	HUAN
1(c), For general lighting purposes ≥ 50 W and < 150 W: 5 mg	
1(d), For general lighting purposes ≥ 150 W: 15 mg	
1(e), For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm: 7 mg	TISTING TIS
1(f), For special purposes: 5 mg	HUAR
2(a), Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
2(a)(1), Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 4 mg	HUAKTEST
2(a)(2), Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 3 mg	and human
2(a)(3), Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8):3.5mg	UNACTES IN THE STATES INTO STATES INTERNED INTO STATES I
2(a)(4), Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 5 mg	Expires on 31 December 2012; 3,5 mg may be used per lamp after 31 December 2012
2(a)(5), Tri-band phosphor with long lifetime (≥ 25 000 h): 5 mg	
2(b), Mercury in other fluorescent lamps not exceeding (per lamp):	STING
2(b)(2), Non-linear halophosphate lamps (all diameters): 15 mg	Expires on 13 April 2016
2(b)(3), Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9):15mg	
2(b)(4), Lamps for other general lighting and special purposes (e.g. induction lamps):15mg	HUAK TESTIN
3, Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	HUM.
3(a), Short length (≤500 mm):3.5mg	NUAR
3(b), Medium length (> 500 mm and ≤ 1 500 mm):5mg	TESTING W TESTING
3(c), Long length (> 1 500 mm):13mg	HUAN
4(a), Mercury in other low pressure discharge lamps (per lamp):15mg	
4(b), Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60:	TING
4(b) -I. P ≤155 W:30mg	I LAK TEST
4(b) -II. 155 W < P ≤ 405 W:40mg	
(/) D > 405 W/40mg	

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Exemptions

RoHS Directive 2011/65/EU ANNEX III

STEP and sold and the	NETEN
Exemption Items	Expires Date
4(c), Mercury in other High Pressure Sodium (vapour) lamps for	HUM
general lighting purposes not exceeding (per burner):	THE
4(c)-I, P ≤ 155 W:25mg	JAK TES
4(c)-II, 155 W < P ≤ 405 W:30mg	N. MIG TIN
4(c)-III, P > 405 W:40mg	AK TES IN A LAK TES
4(d), Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015
4(e), Mercury in metal halide lamps (MH)	
4(f), Mercury in other discharge lamps for special purposes not	
specifically mentioned in this Annex	-6
5(a), Lead in glass of cathode ray tubes	TESTING
5(b), Lead in glass of fluorescent tubes not exceeding 0,2 % by weight	O HUM
6(a), Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35 % lead by weight	KTESTING G
6(b), Lead as an alloying element in aluminium containing up to 0.4 % lead by weight	HUAN TESTING
6(c). Copper alloy containing up to 4 % lead by weight	- Alexandre
7(a), Lead in high melting temperature type solders (i.e. lead- based	NY TESTING
allovs containing 85 % by weight or more lead)	U ^{AU}
7(b). Lead in solders for servers, storage and storage array systems.	TESTING INTERIO
network infrastructure equipment for switching, signalling.	HUAR
transmission, and network management for telecommunications	
7(c)-I, Electrical and electronic components containing lead in a glass	
or ceramic other than dielectric ceramic in capacitors, e.g.	
piezoelectronic devices, or in a glass or ceramic matrix compound	TESTING TEST
7(c)-II, Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	O HUAK .
7(c)-III, Lead in dielectric ceramic in capacitors for a rated voltage of	Expires on 1 January 2013 and
less than 125 V AC or 250 V DC	after that date may be used in
	spare parts for EEE placed on
	the market before 1 January
	2013
7(c)-IV, Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	Expires on 21 July 2016
8(a), Cadmium and its compounds in one shot pellet type thermal	Expires on 1 January 2012 and
cut-offs	after that date may be used in
	spare parts for EEE placed on
	the market before 1 January 2012
8(b), Cadmium and its compounds in electrical contacts	- MAG
9, Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0,75 % by weight in the cooling solution	O HUAKTES

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- UPAN		Exemptions	"LAN TEL	
he		Exemptions		
RoHS Directive	e 2011/65/EU ANN	NEX III	TESTING	
	Exemptio	on Items	Expir	es Date
9(b), Lead in b compressors fo (HVACR) appli	earing shells and b or heating, ventilati ications	oushes for refrigerant-containing on, air conditioning and refrigeration	AK TESTING	O HUM
11(a), Lead us	ed in C-press com	pliant pin connector systems	May be used ir	spare parts for
HUAKTEST			before 24 Sept	the market ember 2010
11(b), Lead us systems	ed in other than C-	press compliant pin connector	Expires on 1 Ja after that date spare parts for	anuary 2013 and may be used in EEE placed on
			the market before 2013	ore 1 January
12, Lead as a cring	coating material for	r the thermal conduction module C-	May be used in EEE placed on before 24 Sept	n spare parts for the market ember 2010
13(a), Lead in	white glasses used	for optical applications	HUAK	STING
13(b), Cadmiui reflectance sta	m and lead in filter ndards	glasses and glasses used for		C HUAK IL
14, Lead in sol connection bet with a lead cor	ders consisting of ween the pins and itent of more than 8	more than two elements for the the package of micropro-cessors 80 % and less than 85 % by weight	Expires on 1 Ja after that date spare parts for the market before 2011	anuary 2011 and may be used in EEE placed on ore 1 January
15, Lead in sol between semic chip packages	ders to complete a conductor die and c	viable electrical connection carrier within integrated circuit flip		Ø
16, Lead in line	ear incandescent la	amps with silicate coated tubes	Expires on 1 S	eptember 2013
17, Lead halide lamps used for	e as radiant agent i professional repro	in high intensity discharge (HID) pgraphy applications	O HUY	
18(b), Lead as weight or less) containing pho	activator in the flue of discharge lamp sphors such as BS	orescent powder (1 % lead by s when used as sun tanning lamps P (BaSi ₂ O ₅ :Pb)	HUNKTESTING	WTESTING
21, Lead and c	admium in printing	inks for the application of enamels	TNG	O HU.
23, Lead in fini with a pitch of	shes of fine pitch c 0,65 mm and less	components other than connectors	May be used ir EEE placed on before 24 Sept	spare parts for the market ember 2010
24, Lead in sol	ders for the solder	ing to machined through hole	O HOPA	O m
25, Lead oxide used in structu	in surface conduc ral elements, notal	tion electron emitter displays (SED) bly in the seal frit and frit ring		6
29, Lead bound $2, 3$ and 4) of (d in crystal glass a	s defined in Annex I (Categories 1,	WAKTEST	WAKTEST

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REPORT No.: HK2109183881-1RR Date: October 14, 202	1 Page 14 of 23
Exemptions	O HUAR O HUAR
RoHS Directive 2011/65/EU ANNEX III	TESTING
Exemption Items	Expires Date
30, Cadmium alloys as electrical/mechanical solder joints to elec-trical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	UNITESTING OF HUN
31, Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	HUAKTESTICE HUAKTESTICE
32, Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
33, Lead in solders for the soldering of thin copper wires of 100 μm diameter and less in power transformers	WINK TESTING
34, Lead in cermet-based trimmer potentiometer elements	
37, Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	TESTING
38, Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	HUAN TESTING
39, Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm ² of light-emitting area) for use in solid state illumination or display systems	Expires on 1 July 2014
40, Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Expires on 31 December 2013
Note: 1. (¹) OJ L 326, 29.12.1969, p.36. 2. For the purposes of Directive 2011/65/EU, a maximum concentratio homogeneous materials for lead, mercury, hexavalent chromium, poly polybrominated diphenyl ethers (PBDE) and of 0,01 % by weight in ho cadmium shall be tolerated	n value of 0,1 % by weight in brominated biphenyls (PBB) and mogeneous materials for

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HUM	woullied		HUM
Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	2021/10/14	Jason Zhou
TESTING	AK TESTING	OK TESTING	TESTING AKTESTING
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REPORT No.: HK2109183881-1RR

Date: October 14, 2021

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Photo(s) of the sample(s)





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HUAK authenticate the photo on original report only

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ATTESTATION Certificate of Compliance

TO CERTIFICATION OF AUTHENTY ATORS WITHEN CORDANNESS TO CENTRATION OF THE AUTORS ON AUTHENTIC CATORS AUTHENTIC AUTHEN

Technical file of the company mentioned below has been inspected and audit has been

completed successfully

The RoHS Directive 2015/863/EU amending Annex II to Directive 2011/65/EU has been taken as references for these processes.

Certificate's Holder :	Shenzhen Hui Qi Mei Technology Co., Ltd.
	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
Manufacturer :	Shenzhen Hui Qi Mei Technology Co., Ltd.
NS TO VERTROCTION AUTHENT	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
Product Name	AUTHENTICATORS WITH FULL OBLIGATIONS TO VERIFICATION AUTHENTICATORS WITH FULL
Product Model (S) :	HM01 TUCATORS WITH FULL OBLICATIONS TO VERIFICATION AUTHENTICATORS WITH FULL OBLICATIONS TO VERIFICATION AUTHENTICATORS WITH FULL OBLICATIONS TO VERIFICATION AUTHENTICATORS WITH FULL
Trade Mark	N/ANTHENTICATORS WITH FULL OBLICATIONS TO VERFICATION AUTHENTICATORS WITH FULL OBLICATIONS TO VERFICATION AUTHENTICATORS WITH
Related Directive :	Directive 2015/863/EU amending Annex II to Directive 2011/65/EU
WITH FULL OBLIGATIONS TO VER	REPECTION AUTHENTICATORS WITH FULL OBLIGATIONS TO VERIFICATION AUTHENTICATOR
Certificate Number	HK2109183881R

Certificate Number : HK2109183881R Report No. : HK2109183881-1RR Registration Date : October 14, 2021

ARIA

Certification Manager



The information of the certificate can be checked through www.cer-mark.com. The CE mark which is shown on the certificate can only be used under the conditions that the products complete with all of the relevant Directives of EC Declaration of Conformity. The Manufacturer should be responsible for the internal production control so that the products complied with the essential requirements of the above mentioned Directive(s). Certificate holder must notify all changes to the original certification laboratory of HUAK.



Shenzhen HUAK Testing Technology Co., Ltd.

Add.:1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China Tel.:+86-755-2302 9901 Http:// www.cer-mark.com Postcode:518103 E-mail: service@cer-mark.com



PSE TEST REPORT

PSE-LVD TEST REPORT

Prepared for : Shenzhen Hui Qi Mei Technology Co., Ltd. 301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China

Product:HumidifierTrade Name:N/AModel Name:HM01Date of Test:Sep. 28, 2021 to Oct. 11, 2021Date of Report:Oct. 11, 2021Report Number:HK2109181137-SR

Prepared By :

Shenzhen HUAK Testing Technology Co., Ltd. 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China TEL: +86-755-2302 9901 FAX: +86-755-2302 9901 E-mail: service@cer-mark.com http://www.cer-mark.com

TRF No. IEC60335_2_98G

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H

TEST REPORT J 60335-2-98 Safety of household and similar electrical appliances Part 2-98: Particular requirements for humidifiers

Report Number:	HK2109181137-SR	
Date of issue:	2021-10-11	
Total number of pages:	94 pages	

Name of Testing Laboratory preparing the Report:	Shenzhen HUAK Testing Technology Co., Ltd.	
Applicant's name:	Shenzhen Hui Qi Mei Technology Co., Ltd.	
Address:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China	

Test specification:

Standard:	J 60335-2-98(H20) / J 60335-1(H27)		
Test procedure:	PSE test report		
Non-standard test method	N/A		
Test Report Form No	IEC60335_2_98G	LAK TESTING	
Test Report Form(s) Originator :	VDE Testing and Certification Institute		
Master TRF:	Dated 2018-06-21		

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General disclaimer:

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

Test item description:	Humidifier
Trade Mark::	N/A start
Manufacturer:	Same as applicant
Model/Type reference::	HM01
Ratings:	Input: 5VDC, 2A, Class III
	MAX TEST. HUNK TEST.

TRF No. IEC60335_2_98G

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Testing Laboratory:	Shenzhen HUAK Testing Technology Co., Ltd.		
Testing location/ address :	1-2/F., Building B2, Jun Innovation Park, Heping Shenzhen, Guangdong	feng Zhongcheng Zhizao g, Fuhai Street, Bao'an District, , China	
Associated Testing Laboratory:	al G	KTESTING NG	
Testing location/ address :	JAKTESTI OPE	HIANTESTIN	
Tested by (name, function, signature) :	Carol Dai	Canl Dai	
Approved by (name, function, signature) :	Dendi Wei	Dendernel	
Testing procedure: CTF Stage 1:			
Testing location/ address:	HUAKTESTING	HUM TESTING	
Tested by (name, function, signature) :		- O	
Approved by (name, function, signature):	-TING	TESTA	
Testing procedure: CTF Stage 2:	pr	O 10-	
Testing location/ address:	THE HUAK TEST	NO TRUE OF HUE	
Tested by (name + signature)	HUAKTES	HUAKTESIN	
Witnessed by (name, function, signature). :	D.	©`	
Approved by (name, function, signature):			
Testing procedure: CTF Stage 3:	WANTEST	WANTESIN - WANTESIN	
Testing procedure: CTF Stage 4:	0. 0	0	
Testing location/ address:	STING HU	AF TESTING	
Tested by (name, function, signature):	JAK LL	HUAKUL	
Witnessed by (name, function, signature). :	TEST	G	
Approved by (name, function, signature):	TING HUAR	TING TING A HUR	
Supervised by (name, function, signature) :	UAK TES	AK TESTING ALAK TEST	

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List of Attachments (including a total number of pages in each attachment):

-Appendix 1: Photo document. (5 pages)

Summary of testing:	19 WTESTING
Tests performed (name of test and test clause): Testing location:
Clause 10: Power input and current;	Shenzhen HUAK Testing Technology Co., Ltd.
Clause 11: Heating;	1-2/F., Building B2, Junfeng Zhongcheng Zhizao
Clause 13: Leakage current and electric strength a operating temperature;	t Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Clause 15: Moisture resistance;	
Clause 16: Leakage current and electric strength;	
Clause 19: Abnormal operation;	TESTING TESTING
Clause 20: Stability and mechanical hazards; Clause 21: Mechanical strength;	H ART O HUAR O HUAR
Clause 22: Construction;	TESTING
Clause 23: Internal wiring;	res and property of the second
Clause 24: Components;	Nur C
Clause 25: Supply connection and external flexible cords;	THE HUAN TESTING
Clause 26: Terminals for external conductors;	NUA TEST
Clause 28: Screws and connections;	
Clause 29: Clearances, creepage distances and solid insulation;	Star Star Star
Clause 30: Resistance to heat and fire; ANNEX E:NEEDLE-FLAME	HANTESIN. OHVANTESIN.
- MA	240

Summary of compliance with National Differences (List of countries addressed): N/A

The product fulfils the requirements of <u>J 60335-2-98(H20) / J 60335-1(H27).</u>

TRF No. IEC60335_2_98G

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Copy of marking plate:

The artwork below may be only a draft.



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Report No.: HK2109181137-SR

AFICATION

Test item particulars	C. HUM	HUM	() HUAR	DHUM
Classification of installation	and use	: Portable hous	ehold appliance and	d normal only
Supply Connection		: DC power sup	ply	
2 TESTING	TESTING.	W TESTING		
Possible test case verdicts:	O MAR	O intra	Own	O INVE
- test case does not apply to	o the test object	: N/A		
- test object does meet the r	requirement	: P (Pass)		
- test object does not meet t	the requirement "	· F (Fail)		
General remarks:		IG HUAK		No. OK
"(See Enclosure #)" refers to "(See appended table)" refers	additional informati to a table appended	on appended to the d to the report.	report.	
Throughout this report a 🗌] comma / 🔀 poin	t is used as the dec	imal separator.	
 Determination of the test resequipment and methods; 	sult includes consid	eration of measuren	nent uncertainty fro	m the test
- The related applicable OSM	decisions have bee	n considered and the	e requirements foun	d fulfilled;
Manufacturer's Declaration	per sub-clause 4.2	.5 of IECEE 02:	TESTING	
The application for obtaining a	a CB Test Certificate	e 🗌 Yes 👘		
includes more than one factor	y location and a	Not applic	able 🔊	
sample(s) submitted for evalu	ation is (are)			
representative of the products	from each factory h	has an and the second		
been provided		WAX TESTIN		
When differences evict the	u aball be identified	d in the Concrel are	duct information a	action
			statute	
Name and address of facto	ry (ies)			
O H	OHO	O HC	O HO	OH.
General product informatio	n:			
N/A				

TRF No. IEC60335_2_98G

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1	Page 7 of 94	Report No.: HK2109	181137-SF
TING	J 60335-2-98	TING TST	NG OHU.
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		
Q.	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.	- WARTESTING	m ^G P
5.6	Humidistats are short-circuited or rendered inoperative (IEC 60335-2-98)	C C C C C C C C C C C C C C C C C C C	Р
6	CLASSIFICATION		//
6.1	Protection against electric shock: Class 0, 0I, I, II, III:	Class III	Р
6.2	Protection against harmful ingress of water	IP20	N/A
7	MARKING AND INSTRUCTIONS		Р
7.1	Rated voltage or voltage range (V):	Refer to marking plate	Р
	Symbol for nature of supply, or:	Refer to marking plate	Р
1G	Rated frequency (Hz)	TING	N/A
	Rated power input (W), or	HUNKTE	N/A
	Electrode-type appliances marked with rated power input (IEC 60335-2-98)	-restine	N/A
	Rated current (A):	Refer to marking plate	Р
O HUN	Manufacturer's or responsible vendor's name, trademark or identification mark	Refer to marking plate	Р
alG	Model or type reference:	Refer to marking plate	G P HUAT
STIL.	Symbol IEC 60417-5172, for class II appliances	Refer to marking plate	N/A
()	IP number, other than IPX0	IP20	N/A
<i>l</i> G	Symbol IEC 60417-5180, for class III appliances, unless		P
0	the appliance is operated by batteries only	0	N/A
T	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth (IEC 60335-1:2010/A1:2013)	HUNKTESTING	N/A
STRIG	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage	WAXTESTING MARTESTING	N/A
۰۰ ۱	Appliances manually filled have level mark or other means to indicate when they filled to their rated capacity, unless they cannot be filled beyond this capacity. Indication visible when appliance being filled. (IEC 60335-2-98)	UNACTESTING	N/A

TRF No. IEC60335_2_98G

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r	Page 8 of 9	4	Кероп К	IO.: HK21091	181137-SH
TING	J 60335	-2-98	TING	-51	NG OHU
Clause	Requirement + Test	Result -	- Remark	HUAK	Verdict
le I	If temperature of water vapour exceeds 60 °C, appliance marked with symbol IEC 60417-5597 (2002-10) or (IEC 60335-2-98/A2)	β	KTESTING	14TE	N/A
0	with substance of the following:	0	101	O HUM	N/A
	CAUTION: Hot water vapour				
	(IEC 60335-2-98/A2)	HUAKT			
7.2	Warning for stationary appliances for multiple supply	Contraction of the second		HUAKTE	N/A
	Warning placed in vicinity of terminal cover	HUAKTES			N/A
7.3	Range of rated values marked with the lower a upper limits separated by a hyphen	ind	HUAKTESTING	HUAKTEST	N/A
<i></i>	Different rated values marked with the values separated by an oblique stroke	0	Ð	<i>~</i>	N/A
7.4	Appliances adjustable for different rated voltag rated frequencies, the voltage or the frequency setting is clearly discernible. (IEC 60335-1:2010/A1:2013)	es or	WAKTESTING	O HUAKTE	, ∾N/A
O HUANT	Requirement met if frequent changes are not required and the rated voltage or rated frequer which the appliance is to be adjusted is determ from a wiring diagram. (IEC 60335-1:2010/A1:2013)	ncy to nined	ESTIN	HUAN TESTING	N/A
7.5	Appliances with more than one rated voltage of or more rated voltage ranges, marked with rate input or rated current for each rated voltage or range, unless	r one ed	HUAKTESTING	HUAK TEST	N/A
16	the power input is related to the arithmetic mean value of the rated voltage range	an ©	TING		N/A
0	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear	•	NUAKTES	O HUAK IL	N/A
7.6	Correct symbols used	- HUAK	(ED)	CTING	Р
O HUAK T	Symbol for nature of supply placed next to rate voltage	d and		HUAKTER	Р
othig	Symbol for class II appliances placed unlikely to confused with other marking	o be	STING	TEST	N/A
0 "	Units of physical quantities and their symbols according to international standardized system		HUAKTES	O HUAK	Р
7.7 ©	Connection diagram fixed to appliances to be connected to more than two supply conductors appliances for multiple supply, unless	and	TESTING	. TE	N/A
	correct mode of connection is obvious	() ¹	ION.	C HUMK !!	N/A
					1

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TRF No. IEC60335_2_98G

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	Faye 9 01 94	Report No., 11/2/109	101137-31
TING	J 60335-2-98	NUM TING	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
7.8	Except for type Z attachment, terminals for connect indicated as follows:	ion to the supply mains	
0	- marking of terminals exclusively for the neutral conductor (letter N)	HUNKTEST	N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)	TAK TESTING	N/A
O HUAKTE	- marking of functional earthing terminals (symbol IEC 60417-5018) (IEC 60335-1:2010/A1:2013)	O HUANTEST	N/A
	- marking not placed on removable parts	AKTESTING	N/A
7.9	Marking or placing of switches which may cause a hazard	WANTESTING HUANTEST	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	.	N/A
\$°	This applies also to switches which are part of a control	HUNKTESTINE	N/A
	If figures are used, the off position indicated by the figure 0	TESTING	N/A
HUAKTE	The figure 0 indicates only OFF position, unless no confusion with the OFF position	HUAN TESTING	N/A
7.11	Indication for direction of adjustment of controls	TESTING	Р
7.12	Instructions for safe use provided	West .	NG P HUP
O HU	Details concerning precautions during user maintenance	HUNGTES !! O HUNGTES	Р
	The instructions state that:		Р
ء ا	- the appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction	HUARTESTING	_{me} P
HUAKTE	- children being supervised not to play with the appliance	HAN TESTING	Р
STAR	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided	NAKTESTING	N/A
0	Instructions for class III appliances state that it must only be supplied at SELV, unless	t Ohne Ohn	N/A
16	it is a battery-operated appliance, the battery being charged outside the appliance	TESTING	N/A
0	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated: (IEC 60335-1:2010/A1:2013)	HUNG HUNG	N/A

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TING	J 60335-2-98	B ^{ILL} STING	NG OHU.
Clause	Requirement + Test	Result - Remark	Verdict
3	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only (IEC 60335-1:2010/A1:2013)	HUAKTESTING	N/A
Ŵ	Instructions include details regarding filling, cleaning and descaling (IEC 60335-2-98)		Р
XT	The instructions shall state the substance of the follo	owing: (IEC 60335-2-98)	
O HUM	 - care should be taken when using the appliance due to the emission of hot water vapour; (IEC 60335-2-98) 		N/A
TING AL	- unplug the appliance during filling and cleaning. (IEC 60335-2-98)	HUAK TESTING HUAK TEST	N/A
	The instructions for electrode-type appliances shall i following (IEC 60335-2-98):	nclude the substance of the	N/A
3	- the composition and quantity of solution to be used and advice not to use an excessive amount of salt; (IEC 60335-2-98)	HUAKTESTING	N/A
	- the appliance is not to be operated from a d.c. supply. (IEC 60335-2-98)	NA TESTING	N/A
O HUAK T	If symbol IEC 60417-5597 (2002-10) used, meaning explained (IEC 60335-2-98/A2)	O HUAN TEST	N/A
7.12.1	Sufficient details for installation supplied	AK TESTING	
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated	HUAK TESTING	N/A
3	If different rated voltages or different rated frequencies are marked, the instructions state wha action to be taken to adjust the appliance (IEC 60335-1:2010/A1:2013)	t unit testing	N/A
0	The installation instructions for appliances intended to be connected to the water mains shall state the maximum permissible water pressure in pascals. (IEC 60335-2-98)	HUAN TESTING	N/A
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules	HUAK TESTING	N/A
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected	a makresting	N/A
7.12.4	Instructions for built-in appliances:	0	
	- dimensions of space	TSTING	N/A

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TING	J 60335-2-98	UN TING	NG OHUN
Clause	Requirement + Test	Result - Remark	Verdict
	- dimensions and position of supporting and fixing		N/A
<i>S</i>	- minimum distances between parts and surrounding structure	TAK TESTING	N/A
0	- minimum dimensions of ventilating openings and arrangement	Contraction Contraction	N/A
- WAKTE	- connection to supply mains and interconnection of separate components	THUAK TESTING	N/A
0	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless	AK TESTING	N/A
SIN MU	a switch complying with 24.3	HUAK TESTA	N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord	0	N/A
G	Replacement cord instructions, type Y attachment	TING	N/A
	Replacement cord instructions, type Z attachment	HUAN TES.	N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard	HUAKTESTING	N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed	TESTING	N/A
7.12.8	Instructions for appliances connected to the water m	nains:	o N/A
St. HIL	- max. inlet water pressure (Pa)	HUAKTEST	N/A
Ś	- min. inlet water pressure, if necessary (Pa):		N/A
le I	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets	and the state of the second	N/A
7.13	Instructions and other texts in an official language	In English & Japanese	Р
7.14	Marking clearly legible and durable, rubbing test as specified	- WAX TESTING	Р
7.15	Markings on a main part	HUAKTE	Р
	Marking clearly discernible from the outside, if necessary after removal of a cover	AKTESTING	P
STING	For portable appliances, cover can be removed or opened without a tool	HUNTTESTING HUNTTEST	N/A
6	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
0	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions	HUARTEST	N/A

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	ANY TES	Page 12 of 94	Report No	.: HK2109181137-SI
TING	TISTING HL	J 60335-2-98	S.	TSTING OHO
Clause	Requirement + Test	HUAK .	Result - Remark	Verdict
6	Indications for switches and on near the components. Markin can be positioned or reposition that the marking is misleading	controls placed on or g not on parts which oned in such a way	HUNK TESTING	P
۷	Symbol IEC 60417-5018 is pl symbol IEC 60417-5172 or IE (IEC 60335-1:2010/A1:2013)	aced next to the C 60417-5180	WUNK TESTING	N/A
O HUAK T	Symbol IEC 60417-5597 (200 (IEC 60335-2-98/A2)	2-10) or	-11 ^G	N/A
TING	marking relating to hot water v outlet (IEC 60335-2-98/A2)	apour near vapour	AK TEST	N/A
7.16	Marking of a possible replace fuse link clearly visible with re link	able thermal link or egard to replacing the	C PRIAKTIN	N/A
8	PROTECTION AGAINST AC	CESS TO LIVE PART	S	2/10
8.1	Adequate protection against a live parts	accidental contact with	O HUNK TEST	N/A
8.1.1	Requirement applies for all poparts removed	ositions, detachable	NAKTESTING	N/A
O HUAKT	Lamps behind a detachable c conditions met	cover not removed, if	0 ***	HUAK TEST
aNG	Insertion or removal of lamps contact with live parts of the la	, protection against amp cap	AK TESTING	N/A
5 ^{11.}	Use of test probe B of IEC 61 exceeding 1 N: no contact with	032, with a force not th live parts	O HUAN TESTIN	N/A
Ģ	Use of test probe B of IEC 61 openings, with a force of 20 N parts	032 through I: no contact with live	STING	N/A
8.1.2	Use of test probe 13 of IEC 6 exceeding 1 N, through open appliances and class II applia no contact with live parts	1032, with a force not ings in class 0 inces/constructions:	HUARTESTING	N/A
O HUAKT	Test probe 13 also applied th earthed metal enclosures hav coating: no contact with live p	rough openings in /ing a non-conductive /arts	o to	N/A
8.1.3	For appliances other than cla probe 41 of IEC 61032, with a 1 N: no contact with live parts heating elements	ss II, use of test a force not exceeding a of visible glowing	AN NUAR TESTING	O MARTIN O N/A
8.1.4	Accessible part not considere	ed live if:		
Ģ	- safety extra-low a.c. voltage exceeding 42,4 V	: peak value not	- WUAK TESTING	N/A
Ø	- safety extra-low d.c. voltage	: not exceeding 42,4 V	0	N/A
w	- safety extra-low d.c. voltage	: not exceeding 42,4 V		N/A

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	Page 15 01 94	Reput No HKZ 109	101137-36
TING	J 60335-2-98	TING	NG OHU.
Clause	Requirement + Test	Result - Remark	Verdict
	- or separated from live parts by protective		N/A
<u>,.</u>	If protective impedance: d.c. current not exceeding 2 mA, and	HUAN TESTING	N/A
	a.c. peak value not exceeding 0,7 mA	ang	N/A
HUAKTE	- for peak values over 42,4 V up to and including 450 V, capacitance not exceeding 0,1 μF	THURK TESTING	N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC	AK TESTING	N/A
STING HU	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ	HUANTESTING	N/A
8.1.5	Live parts protected at least by basic insulation befo	re installation or assembly:	
	- built-in appliances		N/A
S.	- fixed appliances	TESTING	N/A
0	- appliances delivered in separate units	O HUAT	N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only	HUAKTESTING	N/A
TING	Only possible to touch parts separated from live parts by double or reinforced insulation	ANTES IN	N/A
9	STARTING OF MOTOR-OPERATED APPLIANCES	S	
	Requirements and tests are specified in part 2 when necessary		N/A
10	POWER INPUT AND CURRENT		TING
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1.:	O HUAR IL	N/A
HUNATE STING	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period. (IEC 60335-1:2010/A1:2013)	ANTESTING MUNTESTING MUNTESTING MUNTESTING	N/A
	Otherwise the power input is the arithmetic mean value (IEC 60335-1:2010/A1:2013)		N/A
9,	For electrode-type appliances, negative deviation not limited (IEC 60335-2-98/A1)	HUAN TESTING	N/A

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	Page 14 of 94	Report No.: HK2109	181137-S
TING	J 60335-2-98	or MG TING	NG OHD
Clause	Requirement + Test	Result - Remark	Verdict
G	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless	NTESTING NTE	N/A
0	the rated power input is related to the arithmetic mean value	O HUM O HUM	N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2	(see appended table)	Р
STING	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period. (IEC 60335-1:2010/A1:2013)	AKTESTING HUANTESTING	N/A
β	Otherwise the current is the arithmetic mean value. (IEC 60335-1:2010/A1:2013)	ACTESTING ANTE	N/A
0	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless	O IN O IN	N/A
HUAKTE	the rated current is related to the arithmetic mean value of the range	HUANTESTR.	N/A
11	HEATING		
11.1	No excessive temperatures in normal use	STING TEST	NG P HO
11.2	The appliance is held, placed or fixed in position as described	The appliance is placed on a horizontal support	Р
11.3 ©	Temperature rises, other than of windings, determined by thermocouples	-NG	P
0	Temperature rises of windings determined by resistance method, unless	HUAKTESI.	N/A
	the windings are non-uniform or it is difficult to make the necessary connections	UNCTESTING THE	N/A
11.4	Electrode-type appliances are supplied at 1,06 times rated voltage (IEC 60335-2-98)	Max max mest	N/A
STRUG	If temperature rise limits exceeded in appliances incorporating motors, transformers or electronic circuits, and the power input is lower than rated power input, test repeated with appliance supplied at 1,06 times rated voltage (IEC 60335-2-98)	W TESTING HAN TESTING	N/A
11.5 ©	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0,94 and 1,06 times rated voltage (V)	1.06 x 5V=5.3VDC	P
11.6	Combined appliances are operated as heating appliances (IEC 60335-2-98)	O HOLE	N/A

Heat ⊢

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	AK TES	Page 15 of 94	Report No.: HK2109	181137-S
TING	resting the	J 60335-2-98	TNG	NG OHU
Clause	Requirement + Test	HUAN	Result - Remark	Verdict
11.7	Appliances are operated un established (IEC 60335-2-9	ntil steady conditions are 98)		Р
11.8	Temperature rises monitor exceeding the values in ta	red continuously and not ble 3	(see appended table)	Р
O HUAK TE	The temperature rise limits and components of electron directly influenced by them appliance operated at 1,15 (IEC 60335-2-98)	of motors, transformers nic circuits, including parts , exceeded when times rated power input	HUAKTESTING	N/A
TING	If the temperature rise of a the value of table 3, or	motor winding exceeds	at tes	N/A
O HU	if there is doubt with regard insulation,	d to classification of	HIANTES HIANT	N/A
	tests of annex C are carrie	d out		N/A
G	Sealing compound does n	ot flow out	STING	N/A
()	Protective devices do not	operate, except	HUAK IN HUAK I	Р
	components in protective of for the number of cycles s	electronic circuits tested becified in 24.1.4	TESTING	N/A
13	LEAKAGE CURRENT AN TEMPERATURE	D ELECTRIC STRENGT	H AT OPERATING	
13.1	Leakage current not exces adequate	sive and electric strength	AN TESTING	P
STING MU	Electrode-type appliances a rated voltage (IEC 60335-2	supplied at 1,06 times -98)	HUANTESTING	N/A
3	Motor-operated appliances appliances supplied at 1,0 (V)	s and combined 6 times the rated voltage	1.06 x 5V=5.3VDC	Р
0	Protective impedance and disconnected before carry	radio interference filters ing out the tests	O HUAKTESTIC	N/A
13.2	For class 0, class II and cl class II constructions, leak means of the circuit descri IEC 60990 (IEC 60335-1:2	ass III appliances, and age current measured by bed in figure 4 of 2010/A1:2013)	HUAK TESTING	Р
TNG	For class 0I and class I ap impedance ammeter may (IEC 60335-1:2010/A1:20 ⁻²	pliances, a low be used I3)	at restine	N/A
O HU	Leakage current measurer (IEC 60335-1:2010/A1:207	ments: 13)	(see appended table)	Р
G	Electrode-type appliances, measured between metallic vapour, 10 mm from outlet, parts including metal foil (IE	leakage current c mesh placed in water and accessible metal EC 60335-2-98/A1)	HUAKTESTING	N/A
9	Leakage current not excee (IEC 60335-2-98/A1)	d 0,25 mA	TSING	Р

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TING	J 60335-2-98	UT TING	ING OHD
Clause	Requirement + Test	Result - Remark	Verdict
13.3	The appliance is disconnected from the supply		Р
NG .	Electric strength tests according to table 4	(see appended table)	m ^G P
	No breakdown during the tests	HUAK	Р
14	TRANSIENT OVERVOLTAGES		
OKTE	Appliances withstand the transient over-voltages to which they may be subjected	huak restin	N/A
0 ***	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6	(see appended table)	N/A
STING	No flashover during the test, unless	AK TESTING	N/A
0	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited	O train O train	N/A
15	MOISTURE RESISTANCE		N/A
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance	HUAKTESTIN OHUAKTE	N/A
HUAKTE	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3	HUAKTESTING	N/A
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29	ANTESTING	N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529	IP20	N/A
G	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances	TESTING	N/A
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test	O HURA	N/A
TE	Built-in appliances installed according to the instructions	HUAKTESTING	N/A
O HUAN	Appliances placed or used on the floor or table placed on a horizontal unperforated support	- STING	N/A
STING H	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board	NY IL HUN TESTING	N/A
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N/A
0	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and	HUAK TESTING	N/A

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	and The	Page 17 01 94	Report N	0.1 HK21091	01137-35
TING	TSTING OHD	J 60335-2-98	Sr TING	rest	NG OHD.
Clause	Requirement + Test	HUAN	Result - Remark	HUAK	Verdict
6	for appliances normally us the movement is limited to period of 5 min, the suppor level of the pivot axis of the	ed on the floor or table, two times 90° for a t being placed at the e oscillating tube	HIANTESTING	HUAKTE	N/A
	Wall-mounted appliances, distance to the floor stated	take into account the in the instructions	-ESTING		N/A
HUAN TES	Appliances normally fixed underneath a horizontal ur pivot axis of the oscillating of the underside of the sup	to a ceiling are mounted operforated support, the tube located at the level oport, and	A TESTING	HUAKTESTING	N/A
STING O HUI	for IPX4 appliances, the m limited to two times 90° fro period of 5 min	ovement of the tube is m the vertical for a	HUNKTESTING	O HUNKTEST	N/A
	Appliances with type X atta flexible cord as described	achment fitted with a			N/A
10 10	Detachable parts subjected treatment with the main parts	d to the relevant	HUAKTESTING	HUAKTE	N/A
	However, if a part has to b maintenance and a tool is removed	e removed for user needed, this part is not	HUAKTESTING	SING	N/A
15.2	Spillage of liquid does not insulation	affect the electrical		HUAK	N/A
ISTING HUI	Spillage solution comprisin approximately 1 % NaCl a (IEC 60335-1:2010/A1:201	ng water containing nd 0,6 % rinsing agent 3)	ANTES NARTESTING	HUAKTEST	N/A
	Appliances with type X atta flexible cord as described	achment fitted with a	0		N/A
6 •	Appliances incorporating a with or without an connecte unfavourable	n appliance inlet tested or, whichever is most	HANTESTING	HUAKTE	N/A
Ŵ	Detachable parts are remo	ved	- 16 - 16	<u> </u>	N/A
NKTES	Overfilling test with additio water, over a period of 1 m	nal amount of iin (I):	HUAN TESTIN.	AKTESTING	N/A
O HO.	In case of doubt, the spillag the appliance deviating from use by an angle not exceed	e test is carried out with n the normal position of ling 5 ° (IEC 60335-2-98)	ANTESTING	HO	N/A
STAG	Appliances intended to be of operated until maximum was valve held open and filling of first evidence of overflow of	connected to water mains ater level reached. Inlet continued for 15 min after (IEC 60335-2-98)	Musk resting	HUNKTEST	N/A
a G	until inflow stops automatic	ally (IEC 60335-2-98)	Dim		N/A
0*	The appliance withstands of 16.3	the electric strength test	HUAKTEST	O HUAK TE	N/A

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	Page 18 01 94	Report No HK21091	81137-5
STING	J 60335-2-98	TOTING TEST	No Om
Clause	Requirement + Test	Result - Remark	Verdict
6	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29	TESTING	N/A
15.3	Appliances proof against humid conditions	O HONE O HONE	Р
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78	JAKTESTING MG	Ρ
O HUAK TES	Detachable parts removed and subjected, if necessary, to the humidity test with the main part	Mulartes in	Р
	Humidity test for 48 h in a humidity cabinet	25℃, 94%	Р
STING	Reassembly of those parts that may have been removed	WANTESTING HUANTEST	P
9	The appliance withstands the tests of clause 16		Р
16	LEAKAGE CURRENT AND ELECTRIC STRENGT	4	Р
16.1	Leakage current not excessive and electric strength adequate	HUAK TESTING	rm ^{ic} P
	Protective impedance disconnected from live parts before carrying out the tests	T-STING	N/A
HUAKTES	Tests carried out at room temperature and not connected to the supply	HUAK TESTING	Р
16.2	Single-phase appliances: test voltage 1,06 times rated voltage (V):	1.06 x 5V=5.3VDC	Р
STING HUP	Three-phase appliances: test voltage 1,06 times rated voltage divided by $\sqrt{3}$ (V):	HUAK TESTING	N/A
0	Leakage current measurements	(see appended table)	Р
	Limit values doubled if:		
10	- all controls have an off position in all poles, or	AK TESTING	N/A
0 "	- the appliance has no control other than a thermal cut-out, or		N/A
NK TES	- all thermostats, temperature limiters and energy regulators do not have an off position, or	HUAKTESTING	N/A
O HD.	- the appliance has radio interference filters	19 NU	N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified:	(see appended table)	P P
16.3	Electric strength tests according to table 7:	(see appended table)	Р
9	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table)	Ρ
<u>19</u>	No breakdown during the tests	ON TESTING	P
17	OVERLOAD PROTECTION OF TRANSFORMERS CIRCUITS	AND ASSOCIATED	N/A

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TING	J 60335-2-98	or TING	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
1G	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	e testive	N/A
0	Appliance supplied with 1,06 or 0,94 times rated voltage under the most unfavourable short-circuit or overload likely to occur in normal use (V)	not not	N/A
KTE	Basic insulation is not short-circuited	HUAN KESTING	N/A
O HOM	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K	au restruce	N/A
OHU	Temperature of the winding not exceeding the value specified in table 8	HUM TESS	N/A
G	However, limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1	TESTING	N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary	NAKTESTING NG	N/A
19	ABNORMAL OPERATION		N/A
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated	AKTESTING	N/A
STANS	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	(see appended table)	N/A
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		N/A
0	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and	MUAN TESTING	N/A
	if applicable, to the test of 19.5	V TESTING	N/A
HUAKTE	Appliances incorporating PTC heating elements are also subjected to the test of 19.6	MAX TESTING	N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable	ANTESTING	N/A
STARS O HU	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable	NUM TESTING NUM TEST	N/A
<i>y</i> G	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11	ak resmi	N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15	O Inc.	N/A

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TING	J 60335-2-98	AU. TING	TING OHD.
Clause	Requirement + Test	Result - Remark	Verdict
G	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or	in the second	N/A
0	until steady conditions are established	O HUM	N/A
NY TE	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample	HUAKTESTING	N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0,85 times rated power input (W)	Wax restricts	N/A
STING O HU	Container of electrode-type appliances filled with saturated solution of NaCl at 20 $^{\circ}C \pm 5 ^{\circ}C$, appliance being supplied at rated voltage (IEC60335-2-98)	HUAN TESTING	N/A
19.3 ©	Test of 19.2 repeated; test voltage (V), power input of 1,24 times rated power input (W)	- Min	N/A
0	Test not applicable to electrode-type appliances (IEC60335-2-98)	HUAKTESIN O HUAK	N/A
19.4	Appliances only filled with sufficient water to cover heating elements (IEC60335-2-98)	UNTESTING	N/A
HUAK TES	Fans switched off (IEC60335-2-98)	HUAK TEST	N/A
19.5	Test of 19.4 repeated on class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	nax restrict	N/A
O Più	The test repeated with reversed polarity and the other end of the heating element connected to the sheath	O HON O HON	N/A
6 ()	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4	HUAKTESTING	N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions	HUACTESTING	N/A
O Home	The working voltage of the PTC heating element is increased by 5 % and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until	AKTISTING NOR	N/A
STINIC O HU	1,5 times working voltage or until the PTC heating element ruptures (V)	HAN TESTING	
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		N/A
G	locking moving parts of other appliances	W TESTING	N/A
0	Locked rotor, capacitors open-circuited one at a time	O HOLE	N/A

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CTING	J 60335-2-98	or strike restl	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
6	Test repeated with capacitors short-circuited one at a time, unless		N/A
	capacitor is of class P2 of IEC 60252-1	MAKTES IN MAKTE	N/A
0	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed:	UNITESTING STOR	N/A
HUNTE	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit (IEC 60335-1:2010/A1:2013)	ALTESTING HUALTEST	N/A
т- О но	Other appliances supplied with rated voltage for a period as specified	until steady conditions	N/A
- S	Winding temperatures not exceeding values specified in table 8	(see appended table)	N/A
19.8	Multi-phase motors operated at rated voltage with one phase disconnected	HUAKTESIN OHAKTE	N/A
19.9	Running overload test on appliances incorporating motors intended to be remotely or automatically controlled or liable to be operated continuously	HUAKTESTING	N/A
ESTING POLICY	Motor-operated and combined appliances for which 30.2.3 is applicable and that use overload protective devices relying on electronic circuits to protect the motor windings, are also subjected to the test	AKTESTING WAKTESTING	N/A
0	Winding temperatures not exceeding values as specified:	(see appended table)	N/A
19.10	Series motor operated at 1,3 times rated voltage for 1 min (V):	W TESTING	N/A
0	During the test, parts not being ejected from the appliance	O HULL O HULL	N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless	HUAR TESTING	N/A
0	they comply with the conditions specified in 19.11.1	-smile	N/A
ISTING HU	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless	MAX TESTING HUAK TEST	N/A
	restarting does not result in a hazard		N/A
1 ⁹⁶	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4	HUAKTESTING	N/A

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TING	J 60335-2-98	S. TING TEST	NG OHO
Clause	Requirement + Test	Result - Remark	Verdic
3	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out	HUAK TESTING	N/A
Ŵ	During and after each test the following is checked:		
WTF	- the temperature of the windings do not exceed the values specified in table 8	HUAKTESING	N/A
O HOM	- the appliance complies with the conditions specified in 19.13	-restrice	N/A
STING	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4	AN TESTING LAKTEST	N/A
0"	If a conductor of a printed board becomes open-circ considered to have withstood the particular test, pro conditions are met:	uited, the appliance is vided both of the following	
6	- the base material of the printed circuit board withstands the test of annex E	WARTESTING	N/A
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29	HUAKTESTING	N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to meeting both of the following conditions:	circuits or parts of circuits	N/A
STING H	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified	AN HUAK TESTING HUAK TEST	N/A
3	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit	TESTING TE	N/A
19.11.2	Fault conditions applied one at a time, the appliance specified in clause 11, but supplied at rated voltage, specified:	operating under conditions duration of the tests as	
O HUNK TE	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29	HUAK TISTING	N/A
	b) open circuit at the terminals of any component	AKTES	N/A
TING	c) short circuit of capacitors, unless	W TESTING	N/A
0"	they comply with IEC 60384-14	O HUM O HU	N/A
~	d) short circuit of any two terminals of an electronic component, other than integrated circuits		N/A
	This fault condition is not applied between the two circuits of an optocoupler	HUAK TESTING	N/A
	e) failure of triacs in the diode mode		N/A

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TING	J 60335-2-98	ur mus	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
	f) failure of microprocessors and integrated circuits		N/A
3	g) failure of an electronic power switching device	TING	N/A
0"	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made	HUNK TESTING	N/A
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2	ANTESTING MUANTESTIC	N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or	HUMPE HUMPE	N/A
	a device that can be placed in the stand-by mode,		N/A
3 •	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode	HUAK TESTING	N/A
O HUAKTES	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that	HUAKTESTING	N/A
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.	ANTEST	N/A
0	Surge protective devices disconnected, unless	0,	N/A
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4	HUAKTESTING	N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3	JAK TESTING	N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified		N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified	AR	N/A
G	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode (IEC 60335-1:2010/A1:2013)	-016	N/A
•	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling (IEC 60335-1:2010/A1:2013)	MARTEN OHUNCTE	N/A

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	NY TEST.	Page 24 of 94	Report N	o.: HK21091	81137-SF
TING	ESTING OHUN	J 60335-2-98	TING	TEST	NG OHON
Clause	Requirement + Test	A TEC HUAN !!	Result - Remark	HUAK	Verdict
	Earthed heating element disconnected	s in class I appliances			N/A
19.11.4.5	The appliance is subjected accordance with IEC 610	ed to injected currents in 000-4-6, test level 3	HUAK TESTING	O HUAKTE	N/A
19.11.4.6	Appliances having a rate 16 A are subjected to the interruptions in accordan	d current not exceeding class 3 voltage dips and ce with IEC 61000-4-11	HUAKTESTING	WTESTING	N/A
O HOM	Appliances having a rate are subjected to the clas interruptions in accordan	d current exceeding 16 A s 3 voltage dips and ce with IEC 61000-4-34	AK TESTING	HOM	N/A
19.11.4.7	The appliance is subjecter accordance with IEC 610	ed to mains signals in 000-4-13, test level class 2	HUAKTESTING		N/A
19.11.4.8	The appliance is supplied operated under normal o power supply is reduced appliance ceases to resp the programmable comp	d at rated voltage and peration. After 60 s the to a level such that the bond or parts controlled by onent cease to operate	I MAK TESTING	HUAKTE	N/A
	The appliance continues	to operate normally, or		Ŵ	N/A
	requires a manual opera	tion to restart	AK TESTING	-NG	N/A
19.12	If the safety of the applia conditions specified in 19 operation of a miniature IEC 60127, the test is re- current flowing through the current (A); rated current	nce for any of the fault 0.11.2 depends on the fuse-link complying with peated, measuring the he fuse-link; measured to f the fuse-link (A)	ar resine		N/A
19.13	During the tests the appl flames, molten metal, po hazardous amounts	iance does not emit isonous or ignitable gas in	0	0	N/A
N ^{IC}	Temperature rises not ex in table 9	ceeding the values shown	(see appended tabl	e)	N/A
	Compliance with clause	8 not impaired		Ŵ	N/A
NTE.	If the appliance can still b with 20.2	be operated it complies	HUAN TESTING	K TESTING	N/A
O HUM	Insulation, other than of contain live parts, withsta specified in table 4:	class III appliances or class ands the electric strength tes	III constructions that st of 16.3, the test vc	do not litage as	
ESTING.	- basic insulation (V)	Testine	TESTING	AKTEST	N/A
O HC	- supplementary insulation	on (V):	HUM	O HO	N/A
	- reinforced insulation (V)			N/A
1 ⁶	After operation or interru clearances and creepage functional insulation with test of 16.3, the test volta working voltage	ption of a control, e distances across the stand the electric strength age being twice the	HUAN TESTING	HUAKTE	N/A

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TING	J 60335-2-98	STING TST	NG OHD.
Clause	Requirement + Test	Result - Remark	Verdict
6	The appliance does not undergo a dangerous malfunction, and		N/A
0"	no failure of protective electronic circuits, if the appliance is still operable	HUALTESING HUALTE	N/A
	Appliances tested with an electronic switch in the off mode:	position, or in the stand-by	N/A
HUAKTE	- do not become operational, or	O THE RUNKTEST	N/A
0	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4	AN TESTING	N/A
SI. OHU	If the appliance contains lids or doors that are control one of the interlocks may be released provided that:	olled by one or more interlocks,	N/A
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
12 12	- the appliance does not start after the cycle in which the interlock was released	HUNTER HUNTE	N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited	HUAKTESTING	N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time	AN TESTING	N/A
SIN O HUI	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited	HANTEST HANTEST	N/A
(G	If more than one relay or contactor operates in clause 11, they are short-circuited in turn	STING	N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied	HUNCH HUNCH	N/A
20	STABILITY AND MECHANICAL HAZARDS		P
20.1	Appliances having adequate stability	TING	Р
STING MUS	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	MAXTESTING MAXTEST	Р
0	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	<u>_</u>	N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	HUAKTESTING	N/A

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OTING	ESTING OHU	J 60335-2-98	-714	G	NG OHU
Clause	Requirement + Test	HUAN I	Result - Remark	HUAK	Verdict
20.2	Moving parts adequately a to provide protection again	rranged or enclosed as st personal injury			N/A
0	Protective enclosures, gua non-detachable, and	rds and similar parts are	HUANTES IN	C HUAKTE	N/A
	have adequate mechanica	l strength	TING		N/A
HUAKT	Enclosures that can be op interlock are considered to	ened by overriding an be detachable parts	O HUANTES	- HUAK TESTING	N/A
	Self-resetting thermal cut-or protective devices not cause unexpected closure	outs and overcurrent sing a hazard by	AKTESTING		N/A
SIN OH	Not possible to touch dang the test probe described	erous moving parts with	HUAN TEST	O HUAK TES	N/A
21	MECHANICAL STRENGT	н			
21.1	Appliance has adequate m is constructed as to withsta	echanical strength and and rough handling	OK TESTING	WITE	Р
0	Checked by applying 3 blo enclosure like to be weak, Ehb of IEC 60068-2-75, sp an impact energy of 0,5 J	ws to every point of the in accordance with test ring hammer test, with	(see appended ta	ble)	Р
O HUAK	The appliance shows no d compliance with this stand	amage impairing ard, and	TING	O HUAK IL	Р
STING	compliance with 8.1, 15.1 impaired	and clause 29 not	AKTE	G	Р
0"	If doubt, supplementary or subjected to the electric st	reinforced insulation rength test of 16.3	O HUAK IS	O HUAN	N/A
1G	If necessary, repetition of g a new sample	groups of three blows on	Inne		N/A
21.2	Accessible parts of solid in to prevent penetration by s	sulation having strength harp implements	O HUAN TEST	O HUAKTE	Р
. OKT	Test not applicable if the the supplementary insulation is reinforced insulation at least	lickness of s at least 1 mm and st 2 mm	HUNK TESTING	OKTESTING	N/A
O Hou	The insulation is tested as withstand the electric stren	specified, and does gth test of 16.3	TESTING	O How	N/A
22	CONSTRUCTION				NG BHU
22.1	Appliance marked with the system, relevant requirement fulfilled	first numeral of the IP ents of IEC 60529 are	IP20	MUNKIL	Р
22.2	Stationary appliance: mean provided:	ns to ensure all-pole disco	onnection from the	supply being	
0	- a supply cord fitted with a	plug, or	C HUMAN	HUAN	N/A
	- a switch complying with 2	4.3, or	alG		N/A

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TING	ESTING OHU	J 60335-2-98	or the	-EST	NG OH
Clause	Requirement + Test	HUAK	Result - Remark	C HUAK !!	Verdict
6	- a statement in the instruction disconnection incorporated in the be provided, or	sheet that a ne fixed wiring is to	WTESTING	NTE	N/A
O'	- an appliance inlet	C HUM	O HOM	O HUM	N/A
O HUNKTES	Singe-pole switches and single devices for the disconnection o in single-phase, permanently co and class I appliances, connec conductor	-pole protective f heating elements onnected class 01 ted to the phase	NAN TESTING	HUNGTESTING	N/A
22.3	Appliance provided with pins: n socket-outlets	o undue strain on	AKTES	TEST	N/A
HUI	Applied torque not exceeding 0	,25 Nm	HUAKTE	HUAK	N/A
3	Pull force of 50 N to each pin a has being placed in the heating cooled to room temperature the displaced by more than 1 mm	fter the appliance cabinet; when pins are not	W TESTING	STE.	N/A
0	Each pin subjected to a torque are not rotating, unless	of 0,4 Nm; the pins	O HUM	O HUM	N/A
V TES	rotating does not impair compli- standard	ance with this	HUNKTESTING	TESTING	N/A
22.4	Appliance for heating liquids ar undue vibration not provided w into socket-outlets	d appliance causing th pins for insertion	AKTESTING	D HUM	N/A
22.5	No risk of electric shock when the plug, for appliances having rated capacitance equal to or g the appliance being disconnect at the instant of voltage peak (IEC 60335-1:2010/A1:2013)	ouching the pins of a capacitor with reater than 0,1 μ F, ed from the supply	HUAN TESTING	HUAKTEST	N/A
0"	If compliance relies on the oper electronic circuit, the electroma tests of 19.11.4.3 and 19.11.4.4 (IEC 60335-1:2010/A1:2013)	ration of an gnetic phenomena 4 are applied	HUNKTESTING	O HUAK TE	N/A
O HUAN TES	The discharge test is then repevoltage not exceeding 34 V (V) (IEC 60335-1:2010/A1:2013):	ated three times,	O NOR	HUAKTESTIN	N/A
22.6	Electrical insulation not affected water or leaking liquid	d by condensing	AK IL	NKTEST	N/A
0 10	Electrical insulation of class II a affected if a hose ruptures or se	ppliances not eal leaks	O HUMAN	O HON	N/A
	In case of doubt, test as descri	bed			N/A
o O ^r	Drain holes be at least 5 mm in in area with minimum dimensior (IEC60335-2-98)	diameter or 20 mm ² of at least 3 mm	HUAKTESTING	O HUAN TE	N/A

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	- WAKTEL	Page 28 of 94	Report N	IO.: HK21091	81137-51
STING	TESTING OF	J 60335-2-98	TESTING	TEST	NC OL
Clause	Requirement + Test	HUAN	Result - Remark	C HUAN	Verdict
22.7 ©	Adequate safeguards again pressure in appliances cont having steam-producing de	st the risk of excessive aining liquid or gases or vices	w restrict	NTE	N/A
22.8	Electrical connections not s cleaning of compartments to gained without the aid of a t to be cleaned in normal use	ubject to pulling during o which access can be ool, and that are likely	WUAK TESTING	O HUM	N/A
22.9	Insulation, internal wiring, w and slip rings not exposed t substances, unless	indings, commutators o oil, grease or similar	ok tresting	HUAKTL	N/A
CTING	the substance has adequate	e insulating properties	STING STING	TIST	N/A
22.10	Not possible to reset voltage non-self-resetting thermal c of an automatic switching de within the appliance, if:	e-maintained ut-outs by the operation evice incorporated	And HUAKTLE	C HUAK	N/A
ç,	- a non-self-resetting therma the standard, and	al cut-out is required by	HUAKTESTING	HUAKTES	N/A
Ŵ	- a voltage maintained non- cut-out is used to meet it	self-resetting thermal	TESTING	w.	N/A
	Non-self-resetting thermal n trip-free action, unless	notor protectors have a	O HUAR .	HUAKTESTING	N/A
9	they are voltage maintained	<i></i>	TESTING	9	N/A
STING	Reset buttons of non-self-re located or protected that ac unlikely	setting controls so cidental resetting is	AR .	HUAKTEST	N/A
22.11	Reliable fixing of non-detact the necessary degree of pro shock, moisture or contact v	nable parts that provide otection against electric with moving parts	- 	0	Ρ
0	Obvious locked position of s fixing such parts	map-in devices used for	C HUAK TEST	O HUAK TES	N/A
N TE	No deterioration of the fixing devices used in parts that a during installation or servici	g properties of snap-in re likely to be removed ng	WWAX TESTING	KTESTING	N/A
O HUM	Tests as described	O HOM		HUM	Р
22.12	Handles, knobs etc. fixed in	a reliable manner	all TESTING		N/A
STING	Fixing in wrong position of h indicating position of switch components not possible	andles, knobs etc. es or similar	HUAKTESTING	O HUAK TEST	N/A
	Axial force 15 N applied to p so that an axial pull is unlike	parts, the shape being ely to be applied			N/A
	Axial force 30 N applied to p so that an axial pull is likely	parts, the shape being to be applied	HUAKTESTING	HUAKTES	N/A

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TRF No. IEC60335_2_98G

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r	UMK TEN	Page 29 of 94	Report N	NO.: HK21091	81137-55
TING	TESTING OHL.	J 60335-2-98	C.	, FEST	NG OHO.
Clause	Requirement + Test	HUAK .	Result - Remark	HUAK .	Verdict
22.13	Unlikely that handles, when gri use, make the operator's hand temperature rise exceeding the handles which are held for sho	oped as in normal touch parts having a value specified for t periods only	HUAKTESTING	HUANTE	N/A
22.14	No ragged or sharp edges crea user in normal use, or during us	ting a hazard for the ser maintenance	TESTING		N/A
O HUAK TE	No exposed pointed ends of se other fasteners, likely to be tour normal use or during user main	lf-tapping screws or ched by the user in tenance	O HUAN	HUAK TESTING	N/A
22.15	Storage hooks and the like for t smooth and well rounded	lexible cords	AK TEST	51	N/A
22.16	Automatic cord reels cause no damage to the sheath of the fle breakage of conductors strands of contacts	undue abrasion or xible cord, no s and no undue wear	Philax The	O HUAN	N/A
<i>SC</i>	Cord reel tested with 6000 oper	rations, as specified	K TESTING	KTE	N/A
0	Electric strength test of 16.3, vo applied	bltage of 1000 V	O HULL	O HUM	N/A
22.17	Spacers not removable from th by means of a screwdriver or a	e outside by hand or spanner	HUNKTESTING	NY TESTING	N/A
22.18	Current-carrying parts and other resistant to corrosion	er metal parts	TESTING	D HUM	Р
22.19	Driving belts not relied upon to level of insulation, unless	provide the required	AK .	NK TEST	N/A
0"	constructed to prevent inapprop	priate replacement	O HUAN	O HU.	N/A
22.20	Direct contact between live par insulation effectively prevented	ts and thermal , unless			N/A
10 10	material used is non-corrosive, and non-combustible	non-hygroscopic	HUAKTESTING	HUAKTE	N/A
22.21	Wood, cotton, silk, ordinary par hygroscopic material not used a	per and fibrous or as insulation, unless	TESTING		N/A
. ax TF	impregnated	AKTESTING	C HUAN	AKTESTINIS	N/A
O Ho	This requirement does not appl oxide and mineral ceramic fibre electrical insulation of heating e	y to magnesium s used for the elements	AKTESTING	D House	N/A
22.22	Appliances not containing asbe	estos	N TESTING	JAKTEST	Р
22.23	Oils containing polychlorinated used	biphenyl (PCB) not	O HOME	0	Р
22.24	Bare heating elements, except appliances or class III construc contain live parts, adequately s	in class III tions that do not upported	HUNKTESTING	HUAKTE	N/A
	In case of rupture, the heating of to come in contact with accessi	conductor is unlikely ble metal parts	-mic	0	N/A

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TING	J 6	0335-2-98	TOTING	TEST	ne Oho.
Clause	Requirement + Test	Result	t - Remark	HUAR	Verdict
22.25	Sagging heating conductors, except in cla appliances or class III constructions that of contain live parts, cannot come into conta accessible metal parts	iss III lo not ct with	HUAKTESTING	HUNKTE	N/A
22.26	For class III constructions the insulation b parts operating at safety extra-low voltage other live parts complies with the requiren double or reinforced insulation	etween e and nents for	KTESTING	MARTESTING	N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulati	on crestin	6		N/A
22.28	Metal parts of class II appliances conduct connected to gas pipes or in contact with separated from live parts by double or rein insulation	ively water, nforced	HUAK TESTING	HUAK TEST	N/A
22.29 ©	Class II appliances permanently connected wiring so constructed that the required de access to live parts is maintained after inst	ed to fixed gree of stallation	MAKTESTING	MAKTE	N/A
22.30	Parts serving as supplementary or reinfor- insulation fixed so that they cannot be ren without being seriously damaged, or	ced noved	TTESTING	0	N/A
O HUAK TE	so constructed that they cannot be replace incorrect position, and so that if they are of the appliance is rendered inoperable or m incomplete	ed in an omitted, anifestly	6	HUAKTESTIN	N/A
22.31	Neither clearances nor creepage distance supplementary and reinforced insulation r below values specified in clause 29 as a r wear	es over educed esult of	HUAK TESTING	HUAK TEST	Ρ
a ()	Neither clearances nor creepage distance between live parts and accessible parts re below values for supplementary insulation screws etc. become loose	educed a if wires,	HUAKTESTING	O HUAK TES	Ρ
22.32	Supplementary and reinforced insulation constructed or protected against pollution clearances or creepage distances are not below the values in clause 29	so that reduced	KTESTING	HUAKTESTING	Р
STING	Supplementary insulation of natural or syr rubber resistant to ageing, or arranged an dimensioned so that creepage distances a reduced below values specified in 29.2	nthetic d are not	G WAKTESTING	HUAKTEST	N/A
	Ceramic material not tightly sintered, simi materials or beads alone not used as supplementary or reinforced insulation	ar	0		N/A
•	Ceramic and similar porous material in wh heating conductors are embedded is cons be basic insulation, not reinforced insulati (IEC 60335-1:2010/A1:2013)	nich sidered to on	HUAKTESTING	HUAK TE	N/A

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	AKTEST.	Page 31 of 94	Report N	o.: HK21091	81137-SF
TING	resting the	J 60335-2-98	UM	TEST	NG OHUM
Clause	Requirement + Test	HUAK	Result - Remark	HUAK .	Verdict
G	Oxygen bomb test at 70 °C for 9 room temperature	96 h and 16 h at			N/A
22.33	Conductive liquids that are or m accessible in normal use and co that are in contact with unearthe parts are not in direct contact wi	ay become inductive liquids id accessible metal th live parts	HANTES IN	O HUAK TE	N/A
HUAN TES	or unearthed metal parts separa by basic insulation only (IEC 60335-1:2010/A1:2013)	ted from live parts	O HUAN	HIAKTESTING	N/A
TING	Liquids heated by using electrod contact with their live parts (IEC	es and in direct 60335-2-98)	AKTEST	51	N/A
G HU	For class II constructions, condu are or may become accessible i conductive liquids that are in con unearthed accessible metal part contact with basic or reinforced	ictive liquids that n normal use and ntact with s, not in direct insulation, unless	HUNTER	O HUAN	N/A
0	the reinforced insulation consist layers	s of at least 3	HUAN IL	O HUAKTE	N/A
MAKTES	For class II constructions, condu- are in contact with live parts, no with reinforced insulation, unless	active liquids which t in direct contact ss	HUAK TESTING	MAKTESTING	N/A
0	the reinforced insulation consist layers	s of at least 3	AK TESTING		N/A
STING O HUI	An air layer not used as basic of insulation in a double insulation be bridged by leaking liquid	r supplementary system if likely to	HUNCTESTING	HUNK TEST	N/A
22.34	Shafts of operating knobs, hand live, unless	les, levers etc. not			N/A
6 ()	the shaft is not accessible when removed	the part is	HUAKTESTING	HUAKTE	N/A
22.35	For other than class III construc levers and knobs, held or actual not becoming live in the event o insulation	tions, handles, ed in normal use, f a failure of basic	HUAK TESTING	UAK TESTING	N/A
STING O HU	Such parts being of metal, and t fixings are likely to become live failure of basic insulation, are ei covered by insulation material o parts are separated from their si supplementary insulation	heir shafts or in the event of a ther adequately r their accessible nafts or fixings by	AKTESTING HUMTESTING	O HUAK TEST	N/A
а О ⁴	This requirement does not apply and knobs on stationary applian appliances, other than those of components, provided they are to an earthing terminal or earthin separated from live parts by ear (IEC 60335-1:2010/A1:2013)	to handles, levers ces and cordless electrical reliably connected ng contact, or thed metal.	num restine	O HUAKTE	N/A

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	G HUNKTER		Report N	0 1 11/2 109 1	01137-36
STING	TESTING O	J 60335-2-98	TESTING	NKTEST	10° (D).
Clause	Requirement + Test	C HUM	Result - Remark	O HUM	Verdict
NG	Insulating material covering and knobs withstand the el 16.3 for supplementary ins	g metal handles, levers ectric strength test of ulation	w TESTING	N TE	N/A
22.36	For appliances other than of continuously held in the hal constructed that when grip the operators hand is not lif unless	class III, handles nd in normal use so ped as in normal use, kely to touch metal parts,	MAX TESTING	WAKTESTING	N/A
0.	they are separated from liv reinforced insulation	e parts by double or	X TESTING		N/A
22.37	Capacitors in class II applia accessible metal parts and metal, separated from acce supplementary insulation, u	ances not connected to their casings, if of essible metal parts by unless	HUNTESTING	HUAKTEST	N/A
	the capacitors comply with	22.42			N/A
22.38	Capacitors not connected t a thermal cut-out	between the contacts of	HUAKTESTING	HUAKTES	N/A
22.39	Lamp holders used only for lamps	the connection of	STING		N/A
22.40	Motor-operated appliances appliances intended to be r operation, or having access with a switch to control the member of the switch being accessible	and combined moved while in sible moving parts, fitted motor. The actuating g easily visible and	AKTESTING	HUAKTESTING	N/A
ag	If the appliance cannot oper automatically or remotely w hazard, appliances for rem with a switch for stopping the actuating member of the sw and accessible	erate continuously, vithout giving rise to a ote operation being fitted ne operation. The vitch being easily visible	MUMIC HUMPE	HUAKTE	N/A
22.41	No components, other than mercury	lamps, containing	- critiki		Р
22.42	Protective impedance cons separate components	isting of at least two	O HUAR IL	HUAKTESTING	N/A
-mic	Values specified in 8.1.4 no the components are short-o open-circuited	ot exceeded if any one of circuited or	AN TESTING		N/A
O HUI	Resistors checked by the to IEC 60065	est of 14.1 a) in	HUAK TEST	O HUAK TEN	N/A
.6.	Capacitors checked by the capacitors in IEC 60384-14	tests for class Y			N/A
22.43	Appliances adjustable for d accidental changing of the unlikely to occur	ifferent voltages, setting of the voltage	NAN TESTING	O HUAN TE	N/A

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	J 60335-2-98		
Clause	Requirement + Test	Result - Remark	Verdict
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		Р
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure	HUANTES IN OHUMATE	N/A
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	HUAN TESTING	N/A
STING	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards	HUAN TESTING	N/A
	These requirements are not applicable to software used for functional purpose or compliance with clause 11	NAK TESTING	N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N/A
10KT	No leakage from any part, including any inlet water hose	HUAKTESTING	N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water	AKTESTING	N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless	HUN TESTICE HUN TEST	N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation	HUAK TESTING HUAK TE	N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	- HUAKTESTING	N/A
O HUAK I	There is a visual indication showing that the appliance is adjusted for remote operation	NG HUANTE	N/A
TING	These requirements not necessary on appliances th without giving rise to a hazard:	at can operate as follows,	N/A
A HI	- continuously, or	HUAKTES	N/A
	- automatically, or		N/A
	- remotely		N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	HUAN TESTING	N/A

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	WANTER	Page 34 01 94	Report No	.: HK2109181137-3
TING	TISTING OF	J 60335-2-98	STING	resting OF
Clause	Requirement + Test	W TEL HUAR .	Result - Remark	Verdic
22.53	Class II appliances and incorporate functionally double insulation or reim live parts and the functio (IEC 60335-1:2010/A1:2	class III appliances that earthed parts have at least forced insulation between onally earthed parts 2013)	HUAKTESTING	N/A
22.54	Button cells and batterie accessible without the a (IEC 60335-1:2010/A1:2	s designated R1 not id of a tool, unless 2013)	HUN TESTING	N/A
STING	the cover of their compa after at least two indepe been applied simultaned (IEC 60335-1:2010/A1:2	rtment can only be opened ndent movements have ously 2013)	JAK TESTING	N/A
22.101	Vapour outlet of appliance heating water be free from give rise to a significant p (IEC 60335-2-98)	es incorporating means for m obstructions that could pressure within container	O HUAN	N/A
0	Container vented to atmo least 5 mm in diameter o minimum dimension of at (IEC 60335-2-98)	osphere, aperture being at r 20 mm² in area with t least 3 mm	HUAK TESTING	MAAA TE N/A
22.102	Appliances for wall mour for fixing to wall, indepen mains (IEC 60335-2-98)	ting have reliable provision dent of connection to water	O HUM C	N/A
22.103	Electrode-type appliance that when filling aperture electrodes disconnected disconnection under over conditions (IEC 60335-2-	s so constructed to ensure of container is open, both to provide all-pole rvoltage category III 98)	WAKTESTING	N/A
G	This requirement not app requires withdrawal of an order to gain access to fil (IEC 60335-2-98/A1)	ly to an appliance that appliance connector in lling aperture	HUAKTESTING	N/A
22.104	Appliances intended to b withstand water pressure (IEC 60335-2-98)	e connected to water mains expected in normal use	HUNTTESTING	N/A
23	INTERNAL WIRING			
23.1	Wireways smooth and fr	ree from sharp edges	TESTING	Р
STING	Wires protected against fins etc.	contact with burrs, cooling	WAR TESTING	P
0.	Wire holes in metal well- bushings	rounded or provided with	O m	N/A
β	Wiring effectively preven contact with moving part	nted from coming into	TESTING	N/A
23.2	Beads etc. on live wires position, and are not res	cannot change their ting on sharp edges	O HUAN	N/A

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	AK TEST.	Page 35 of 94	Report I	No.: HK21091	181137-SF
TING	TESTING OHUN	J 60335-2-98	Or more	3	NG OHO
Clause	Requirement + Test	HUAN	Result - Remark	HUAK	Verdict
6	Beads inside flexible meta within an insulating sleeve	conduits contained			N/A
23.3	Electrical connections and movable relatively to each undue stress	internal conductors other not exposed to	HUAKTESING	HUAK TE	N/A
aKT	Flexible metallic tubes not insulation of conductors	causing damage to	HUAKTESTIN	AKTESTING	N/A
O HOM	Open-coil springs not used	O HUM		O HOM	N/A
Ola	Adequate insulating lining spring, the turns of which t	provided inside a coiled ouch one another	AKTESTING	i an	N/A
O 4	No damage after 10 000 fl flexed during normal use, o	exings for conductors	HUAN TEST	O HUAK TES.	N/A
	100 flexings for conductors maintenance	flexed during user			N/A
	Electric strength test of 16. parts and accessible meta	3, 1000 V between live parts	HUAKTESTING	HUAKTE	N/A
9	Not more than 10 % of the broken, and	strands of any conductor	TESTING	9	N/A
HUAKT	not more than 30 % for wir consume no more than 15	ing supplying circuits that W	C HUM	HUAKTESTING	N/A
23.4	Bare internal wiring sufficie	ently rigid and fixed	TESTING	<i></i>	N/A
23.5	The insulation of internal w supply mains voltage with stress likely to occur in nor	riring subjected to the standing the electrical mal use	HAN TESTING	HUNKTEST	Р
G	Basic insulation electrically insulation of cords complyi IEC 60245, or	r equivalent to the basic ng with IEC 60227 or	-NG		N/A
0	no breakdown when a volt for 15 min between the con wrapped around the insula	age of 2000 V is applied nductor and metal foil tion	HUAK TESS	O HUNKTE	Р
HUAKT	For class II construction, the supplementary insulation a apply, (IEC 60335-1:2010/	ne requirements for and reinforced insulation A1:2013)	HUNK TESTIN	HUAKTESTING	N/A
TING	except that the sheath of a 60227 or IEC 60245 may p insulation. (IEC 60335-1:20	cord complying with IEC provide supplementary D10/A1:2013)	AL TESTING	3 7551	N/A
0"	A single layer of internal w provide reinforced insulatio (IEC 60335-1:2010/A1:201	iring insulation does not on 3)	O HEAR TH	O HUMAN	N/A
23.6	Sleeving used as supplem internal wiring retained in p both ends, or	entary insulation on oosition by clamping at	HUAKTESTING	HUNKTE	N/A
	be such that it can only be cutting	removed by breaking or	TESTING		N/A

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TING	J 60335-2-98	-TING -TST	NG OHUN
Clause	Requirement + Test	Result - Remark	Verdict
23.7	The colour combination green/yellow only used for earthing conductors		N/A
23.8	Aluminium wires not used for internal wiring	WAK TESTING	Р
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless	A LAKTESTING	N/A
HUAKTE	the contact pressure is provided by spring terminals	O HUANTESI.	N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)	AKTESTING HAAKTESTING NAAKTEST	N/A
24	COMPONENTS		Р
24.1	Components comply with safety requirements in relevant IEC standards	res mus	Р
0	List of components	(see appended table)	Р
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance (IEC 60335-1:2010/A1:2013)	HUACTESTING	N/A
O HUAK	Relays tested as part of the appliance, or (IEC 60335-1:2010/A1:2013)	TING MUSAC	N/A
STING	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1 (IEC 60335-1:2010/A1:2013)	AN TE-	N/A
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance (IEC 60335-1:2010/A1:2013)		N/A
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard (IEC 60335-1:2010/A1:2013)	HUAKTESTING	Р
O HUAN TE	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections (IEC 60335-1:2010/A1:2013)	HUAKTESING	N/A
STRIG	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2 (IEC 60335-1:2010/A1:2013)	MAK TESTING HUAK TEST	Р
ء ا	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met (IEC 60335-1:2010/A1:2013)	HUAKTESTING	Р

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TING	restrike Hor	J 60335-2-98	STING	TEST	NG OHU
Clause	Requirement + Test	NUAK	Result - Remark	HUAK	Verdict
le I	If these conditions are not satisfied, the is tested as part of the appliance. (IEC 60335-1:2010/A1:2013)	ne component	w TESTING	NTE	N/A
0	Power electronic converter circuits no comply with IEC 62477-1, they are te the appliance (IEC 60335-1:2010/A1:	ot required to sted as part of 2013)	e Human	O HUM	N/A
O HUAKT	If components have not been tested a comply with relevant IEC standard for of cycles specified, they are tested in with 24.1.1 to 24.1.9	and found to the number accordance	C HUAR	HUAKTESTING	N/A
STING	For components mentioned in 24.1.1 additional tests specified in the releva standard are necessary other than th in 24.1.1 to 24.1.9	to 24.1.9 no int component ose specified	HUNKTESTING	HUAK TEST	Р
ş.	Components not tested and found to relevant IEC standard and componer or not used in accordance with its ma under the conditions occurring in the	comply with ts not marked rking, tested appliance	HUM TESTING	C HUAKTE	N/A
O HUAKT	Lampholders and starterholders that being tested and found to comply with IEC standard, tested as a part of the additionally according to the gauging interchangeability requirements of the standard	have not the relevant appliance and and relevant IEC	HUAK TESTING		N/A
STING	No additional tests specified for natio standardized plugs such as those det IEC/TR 60083 or connectors complyi standard sheets of IEC 60320-1 and	nally ailed in ng with the IEC 60309	HUAK TESTING	HUAK TEST	N/A
24.1.1	Capacitors likely to be permanently s the supply voltage and used for radio suppression or for voltage dividing, co IEC 60384-14	ubjected to interference omplying with	HUNKTESTING	HUAKTE	N/A
0	If the capacitors have to be tested, th according to annex F	ey are tested	-cstnig	Ŵ	N/A
24.1.2	Transformers in associated switch me supplies comply with Annex BB of IE (IEC 60335-1:2010/A1:2013)	ode power C 61558-2-16	O HUMP IL	HUAKTESTING	N/A
CTING	Safety isolating transformers complyi IEC 61558-2-6	ng with	AKTES	TEST	N/A
0"	If they have to be tested, they are tes to annex G	ted according	O HUAN TO	O HUAK IL	N/A
24.1.3 ©	Switches complying with IEC 61058- of cycles of operation being at least 1	I, the number 0 000	Bim		N/A
0	If they have to be tested, they are test to annex H	ted according	HUAK TES	O HUAKTE	N/A

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TING	J 60	335-2-98	CTING	TEST	NG OHU
Clause	Requirement + Test	Resu	lt - Remark	HUAK	Verdict
3	If the switch operates a relay or contactor, complete switching system is subjected to	the the test			N/A
0"	If the switch only operates a motor staring complying with IEC 60730-2-10 with the nu cycles of a least 10 000 as specified, the c switching system need not be tested	relay umber of omplete	HUAKTESIN	O HUAKTE	N/A
24.1.4	Automatic controls complying with IEC 607 number of cycles of operation being at least	30-1 with the rest:	levant part 2.	The	
Ŵ	- thermostats:	. 10 000	NG	9	N/A
ЪG	- temperature limiters:	1 000	ЪG		N/A
STATE HUP	- self-resetting thermal cut-outs:	300	I LAK TESTING	HUAKTESU	N/A
	- voltage maintained non-self-resetting therr outs:	nal cut- 1 000	0	0	N/A
3	- other non-self-resetting thermal cut-outs:	30	TNG		N/A
a v	- timers:	3 000	HUAKTES	HUAKTE	N/A
	- energy regulators:	10 000	3		N/A
C HUAN TES	The number of cycles for controls operatin clause 11 need not be declared, if the app meets the requirements of this standard w are short-circuited	g during iance hen they	urtestine	HUAKTESTING	N/A
STING	Thermal motor protectors are tested in cor with their motor under the conditions speci annex D	nbination fied in	WTESTING	MAKTEST	N/A
۵ ۵	For water valves containing live parts and incorporated in external hoses for connect appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7	that are ion of an if	THE HER	O III	N/A
0,	Thermal cut-outs of the capillary type com the requirements for type 2.K controls in IEC 60730-2-9 (IEC 60335-1:2010/A1:201	oly with () 3)	TESTING	O HUND	N/A
24.1.5	Appliance couplers complying with IEC 60	320-1	bu.	NK TESTING	N/A
O Hor	However, for appliances classified higher to IPX0, the appliance couplers complying with IEC 60320-2-3	han th	we C	ho	N/A
STINIS (B) HUP	Interconnection couplers complying with IEC 60320-2-2	Sine.	HUNKTESTING	HUAKTEST	N/A
24.1.6	Small lamp holders similar to E10 lamphol complying with IEC 60238, the requiremen E10 lampholders being applicable	ders ts for	200		N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant s for the telecommunication interface circuitr appliance is IEC 62151	a tandard y in the	HUAKTES	O HUAN TE	N/A

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TING	J 60335-2-98	UN TING	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
24.1.8	The relevant standard for thermal links is IEC 60691	2	N/A
0	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of clause 19	HUAN TESTING	N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance	HUAKTESTINE WTESTING	N/A
C HUM	They are also tested in accordance with clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance	ANTESTING MUN	N/A
24.2	Appliances not fitted with:	HUAK TESS HUAK IL	N/A
	- switches or automatic controls in flexible cords		N/A
ß	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance	WARTESTING	N/A
Ø	- thermal cut-outs that can be reset by soldering, unless		N/A
	the solder has a melding point of at least 230 °C	HUANTES STING	N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions	ANTESTING MARKEN	N/A
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1	HUM DESTING	N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly	NUAK TESTING	N/A
HUNK T	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load	ANTESTING O HUMPLE	N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V	HUNKTESTING HUNKTES	N/A
ß	In addition, the motors comply with the requirements of annex I	MAK TESTING	N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A

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	J 60335-2-98		
Clause	Requirement + Test	Result - Remark	Verdict
	They are supplied with the appliance		N/A
6	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set	HUAK TESTING	N/A
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure	HUAKTESTING	N/A
w.	One or more of the following conditions are to be me	et: restrike	N/A
STING	- the capacitors are of class P2 according to IEC 60252-1	and the second	N/A
0"	- the capacitors are housed within a metallic or ceramic enclosure	O Home O Here	N/A
G	- the distance of separation of the outer surface to adjacent non-metallic parts exceeds 50 mm	SUM	N/A
0	- adjacent non-metallic parts within 50 mm withstand the needle-flame test of annex E	China China	N/A
MAKT	- adjacent non-metallic parts within 50 mm classified as at least V-1 according to IEC 60695-11-10	HUAKTESTING	N/A
24.101	Thermal cut-outs incorporated in appliances for compliance with clause 19 not be self-resetting (IEC 60335-2-98)	AKTESTING	N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIB	LE CORDS	N/A
25.1	Appliance not intended for permanent connection to connection to the supply:	fixed wiring, means for	N/A
β O	- supply cord fitted with a plug, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance (IEC 60335-1:2010/A1:2013)	NUAKTESTING	N/A
WAKT	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or	HUAKTESTING	N/A
0	- pins for insertion into socket-outlets	- MG	N/A
25.2	Appliance not provided with more than one means of connection to the supply mains	ar nor	N/A
G	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown	num la num	N/A
25.3	Appliance intended to be permanently connected to of the following means for connection to the supply r	fixed wiring provided with one nains:	N/A

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TING	resting thomas	J 60335-2-98	UM	TST	NG OHU
Clause	Requirement + Test	HUAN	Result - Remark	HUAK .	Verdict
	- a set of terminals allowing flexible cord	the connection of a			N/A
	- a fitted supply cord	UAK TESTING	I LAK TESTING	UAK TE	N/A
0	- a set of supply leads according to a set of suppl	ommodated in a suitable	C H	0	N/A
O HUNKT	- a set of terminals for the of fixed wiring, cross-sectional and the appliance allows the supply conductors after the fixed to its support	connection of cables of al areas specified in 26.6, the connection of the appliance has been	NK TESTING	HUAKTESTING	N/A
STING C	- a set of terminals and cab entries, knock-outs or gland of appropriate types of cab appliance allows the conne conductors after the applian support	le entries, conduit ds, allowing connection le or conduit, and the ection of the supply nce has been fixed to its	HUAKTESTING	HUAKTEST	N/A
٠	For a fixed appliance const be removed to facilitate eas requirement is met if it is po fixed wiring without difficult appliance has been fixed to	ructed so that parts can sy installation, this ossible to connect the y after a part of the o its support	HUNKTESTING	Uniter the	N/A
25.4	Cable and conduit entries, appliance not exceeding 16 to table 10 (mm)	rated current of S A, dimension according	AKTESTING	HUAN	N/A
STING	Introduction of conduit or conduct of conduc	able does not reduce stances below values	HUAK TESTING	O HUAKTEST	N/A
25.5	Method for assembling the	supply cord to the applia	nce:		N/A
1G	- type X attachment	NG TING	MVG		N/A
	- type Y attachment	HUAKTESS	HUAKTEST	HUAKTE	N/A
Ŵ	- type Z attachment, if allow	ved in relevant part 2		w.	N/A
HUAKT	Type X attachment, other to specially prepared cord, no cords	han those with a it used for flat twin tinsel	O MANTESTIC	HUAKTESTING	N/A
STING	For multi-phase appliances cord and that are intended connected to fixed wiring, t assembled to the appliance	s supplied with a supply to be permanently he supply cord is by type Y attachment	AKTESTING B	WAKTEST	N/A
25.6	Plugs fitted with only one fl	exible cord	O m.	(O)	N/A
25.7	Supply cords, other than fo	r class III appliances, bei	ng one of the followi	ng types:	N/A
1G	- rubber sheathed (at least	60245 IEC 53)	-csTING		N/A
	- polychloroprene sheathed	l (at least 60245 IEC 57)	HUAK	HUAKT	N/A
9	- polyvinyl chloride sheathe a temperature rise exceedi	ed. Not used if they are lik ng 75 K during the test of	ely to touch metal p clause 11	arts having	N/A

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TING	J 60335-2-98	UN TING	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
6	 light polyvinyl chloride sheathed cord (60227 IEC 52), for appliances not exceeding 3 kg 	a testing	N/A
0	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), for other appliances	O HOLE	N/A
TE	- heat resistant polyvinyl chloride sheathed. Not used than specially prepared cords	d for type X attachment other	N/A
O HOM	 heat-resistant light polyvinyl chloride sheathed cord (60227 IEC 56), for appliances not exceeding 3 kg 	AKTESTING OFFICE	N/A
STING HU	- heat-resistant polyvinyl chloride sheathed cord (60227 IEC 57), for other appliances	HUAN TESTING HUAN TEST	N/A
	Supply cords for class III appliances adequately insulated		N/A
3	Test with 500 V for 2 min for supply cords of class III appliances that contain live parts	WAKTESTING	N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm ²)	AKTESTING ANG	N/A
25.9	Supply cords not in contact with sharp points or edges	HAN TEST	N/A
25.10	Supply cord of class I appliances have a green/yellow core for earthing	AKTESTING	N/A
O HU	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue. (IEC 60335-1:2010/A1:2013)	HUNKTESTE HUAKTEST	N/A
25.11 ©	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless	WAK TESTING	N/A
0	the contact pressure is provided by spring terminals	0, 0,	N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure	HUAKTESTING	N/A
25.13	Inlet openings so constructed as to prevent damage to the supply cord	THE HAR	N/A
STANG	If it is not evident that the supply cord can be introduced without risk of damage, a non- detachable lining or bushing complying with 29.3 for supplementary insulation provided (IEC 60335-1:2010/A1:2013)	NUTES HUNTESTING	N/A
G	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is	WARTESTING	N/A
0	class 0, or	0	N/A
	a class III appliance not containing live parts	TESTING	N/A

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TING		J 60335-2-98	STATE	-51	NG OHU
Clause	Requirement + Test	HUAK	Result - Remark	HUAK	Verdict
25.14	Supply cords moved while in operati protected against excessive flexing	on adequately			N/A
	Flexing test, as described:	ILAN TESTING	MAKTESTING	ILAK TE	N/A
۲	- applied force (N)		O.	0	N/A
	- number of flexings	:	TESTING		N/A
ak T	The test does not result in:	TESTING	C HUAN	AKTESTING	N/A
O man	- short-circuit between the conductor the current exceeds a value of twice current	s, such that the rated	AKTESTING	D Hor	N/A
STING OF	- breakage of more than 10 % of the conductor	strands of any	HUNCTESTING	HUAKTEST	N/A
	- separation of the conductor from its	terminal			N/A
6	- loosening of any cord guard	.6			N/A
	- damage to the cord or the cord gua	rd IM TESTING	HAKTESTIN	I LAK TE	N/A
0	- broken strands piercing the insulati becoming accessible	on and		0	N/A
25.15	For appliances with supply cord and be permanently connected to fixed w flexible cord, conductors of the supp from strain, twisting and abrasion by anchorage	appliances to /iring by a ly cord relieved use of cord	WHAN TEST	HUNKTESTING	N/A
STING	The cord cannot be pushed into the such an extent that the cord or interr appliance can be damaged	appliance to al parts of the	HUAN TESTING	O HUAK TEST	N/A
<i>c</i>	Pull and torque test of supply cord: (IEC 60335-1:2010/A1:2013)	-			N/A
. 0	-fixed appliances: pull 100 N; torque automatic cord reel) (Nm) : (IEC 60335-1:2010/A1:2013)	(not on	HUAKTESTIN	O HUAK TE	N/A
HUAKT	- other appliances: values shown in ta (kg); pull (N); torque (not on automatii (Nm): (IEC 60335-1:2	ble 12: mass c cord reel) 010/A1:2013)	HUAN TESTING	HUAKTESTING	N/A
	Pull and torque test of supply cord, v table 12: mass (kg); pull (N); torque automatic cord reel) (Nm)	alues shown in (not on	AN TESTING		N/A
O ^H	Cord not damaged and max. 2 mm of the cord	lisplacement of	HUAKTEST	O HUAK TE	N/A
25.16	Cord anchorages for type X attachm	ents constructed	d and located so the	at:	N/A
G	- replacement of the cord is easily po	ssible	TING		N/A
0	- it is clear how the relief from strain prevention of twisting are obtained	and the	O HUAK TEST	O HUAKTE	N/A
	- they are suitable for different types	of supply cord	STING		N/A

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1	Page 44 01 94		19101137-51
TING	J 60335-2	2-98	CSTING OHU
Clause	Requirement + Test	Result - Remark	Verdict
G	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unles	l SS	N/A
0	they are separated from accessible metal parts supplementary insulation	by	N/A
	- the cord is not clamped by a metal screw which bears directly on the cord	h	N/A
O HUAK TE	- at least one part of the cord anchorage securel fixed to the appliance, unless	ly he have the head t	N/A
	it is part of a specially prepared cord	AKTESTING.	N/A
STING	- screws which have to be operated when replace the cord do not fix any other component, unless	cing and the same	S N/A
	the appliance becomes inoperative or incomplet or the parts cannot be removed without a tool	te	N/A
le	- if labyrinths can be bypassed the test of 25.15 nevertheless withstood	is	N/A
0	- for class 0, 0I and I appliances they are of insulating material or are provided with an insulating lining, unless	O H. O H.	N/A
HUAKTE	failure of the insulation of the cord does not mak accessible metal parts live	(e) Hum a Hum resm	N/A
	- for class II appliances they are of insulating material, or	H AN TESTING	N/A
STING	if of metal, they are insulated from accessible me parts by supplementary insulation	etal	۵ ^۲ N/A
G	After the test of 25.15, under the conditions specified, the conductors have not moved by mothan 1 mm in the terminals	ore	N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance	MAKTEST OHUA	N/A
25.18	Cord anchorages only accessible with the aid of tool, or	fa B hun testi	ß N/A
O HO.	Constructed so that the cord can only be fitted w the aid of a tool	vith	N/A
25.19	Type X attachment, glands not used as cord anchorage in portable appliances	M M M M M M M M M M M M M M M M M M M	N/A
0,,	Tying the cord into a knot or tying the cord with string not used	O train O train	N/A
25.20	The conductors of the supply cord for type Y and attachment insulated from accessible metal part (IEC 60335-1:2010/A1:2013)	d Z ts	N/A
25.21 🤍	Space for supply cord for type X attachment or f constructed:	for connection of fixed wiring	N/A

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TING	J 60335-2-98	STING TST	NG OHO.
Clause	Requirement + Test	Result - Remark	Verdict
1G	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover	A TESTING A TE	N/A
0	- so there is no risk of damage to the conductors or their insulation when fitting the cover	O HOLE O HOLE	N/A
HUAK TE	- for portable appliances, so that the uninsulated end of a conductor, if it becomes free from the terminal, prevented from contact with accessible metal parts	HUAKTESTING	N/A
TING	2 N test to the conductor for portable appliances; no contact with accessible metal parts	ALTES "	N/A
25.22	Appliance inlets:	HUAKTE	N/A
	- live parts not accessible during insertion or removal		N/A
NG	Requirement not applicable to appliance inlets complying with IEC 60320-1	WANTESTING WANTE	N/A
۲	- connector can be inserted without difficulty	0	N/A
	- the appliance is not supported by the connector	TESTING	N/A
HUAKTE	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless	huartesting	N/A
	the supply cord is unlikely to touch such metal parts	TESTING	N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:	NG NAKTESTING	N/A
0.	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11	O.m. O.m.	N/A
NG	- the thickness of the insulation may be reduced	-ESTING	N/A
6	If necessary, electric strength test of 16.3	HUAN O HUAN	N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected	HUAKTESTING	N/A
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.	artestine Other	N/A
STING OHU	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083	HUAN TESTING	N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors	HUAKTESTING HUAKTE	Р
1.59			

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TING	J 60335-2-98	C. TEST	No 0 H
Clause	Requirement + Test	Result - Remark	Verdic
3	Terminals only accessible after removal of a non-detachable cover, except		N/A
	for class III appliances that do not contain live parts	WAX TESTING WAX TES	Р
O NTES	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection	HUAKTESTING AVTESTING	N/A
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless	av resine one con	N/A
HUP	the connections are soldered	HUAKTE	N/A
	Screws and nuts not used to fix any other component, except		N/A
s O ^H	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors	HUAKTESTING	N/A
NTES	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless	HUAKTESTING	N/A
STING MUN	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint	AK TESTING	N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor	ANTESTING ANALTES	N/A
0.	Terminals fixed so that when the clamping means is	tightened or loosened:	N/A
	- the terminal does not become loose	TESTING	N/A
WIES	- internal wiring is not subjected to stress	HUAN KTESTING	N/A
O HUM	 neither clearances nor creepage distances are reduced below the values in clause 29 	-restine Mut	N/A
STING HUP	Compliance checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified (Nm)	HIAK TESTING	N/A
	No deep or sharp indentations of the conductors		N/A
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, evelets or similar, and	HUAN TESTING	N/A

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TING	J 60335-2-98	TING	NG OHU.
Clause	Requirement + Test	Result - Remark	Verdict
6	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened	TESTING TE	N/A
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard	UNACTESTING	N/A
HUAKTL	Stranded conductor test, 8 mm insulation removed	HIANTE	N/A
9	No contact between live parts and accessible metal parts and,	at restruc	N/A
STING HUI	for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only	HIAKTESTIC HUAKTEST	N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²)	HUAKTESTING	N/A
-0	If a specially prepared cord is used, terminals need only be suitable for that cord	HUAKTESTING	N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure	WITSTING MUARTIC	N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other	MAKTESTING HUAKTEST	N/A
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless	HUAK TESTING	N/A
	conductors ends fitted with means suitable for screw terminals	-sting	N/A
NK TES	Pull test of 5 N to the connection	HUAK	N/A
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		N/A
STING HUI	For class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone	AN TESTING HUAKTEST	N/A
6 ()) ⁴	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free	HUAKTESING	N/A
27	PROVISION FOR EARTHING	•	N/A

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TING	J 60335-2-98	ur	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
27.1	Accessible metal parts of class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet	TESTING	N/A
0	Earthing terminals and earthing contacts not connected to the neutral terminal	O HOLE	N/A
XT	Class 0, II and III appliances have no provision for protective earthing (IEC 60335-1:2010/A1:2013)	Class III	N/A
O HOL	Class II appliances and class III appliances can incorporate an earth for functional purposes (IEC 60335-1:2010/A1:2013)	ANTESTING NUM	N/A
STING	Safety extra-low voltage circuits not earthed, unless	TESTING MATTEST	N/A
0"	protective extra-low voltage circuits	O HUM O HU	N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		N/A
0	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2,5 to 6 mm ² , and	HUAK TESTING	N/A
	do not provide earthing continuity between different parts of the appliance, and	HUAKTESTING	N/A
O HUAK	conductors cannot be loosened without the aid of a tool	- ma	N/A
STING	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes (IEC 60335-1:2010/A1:2013)	HUM TESTING	N/A
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part	HUAK TESTING	N/A
xTF	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage	HUAKTESTING	N/A
C HUM	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes (IEC 60335-1:2010/A1:2013)	AKTESTING MUN	N/A
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal	O HUNTLESS O HUNCH	N/A
Q.	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion	HUAN TESTING	N/A
Ŵ	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		N/A

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TING	ESTING PLU	J 60335-2-98	UT TING	-EST	NG OHU
Clause	Requirement + Test	HUAN	Result - Remark	HUAK	Verdict
16	Adequate protection agains coated or uncoated steel, o or transmit contact pressur	st rusting of parts of only intended to provide e	A TESTING	KTE	N/A
Ó	In the body of the earthing frame or enclosure of alum alloys, precautions taken to	terminal is a part of a inium or aluminium o avoid risk of corrosion	10 HUA	O HUM	N/A
HUAKTES	Requirements not applicab and class III appliances tha for functional purposes (IEC 60335-1:2010/A1:201	le to class II appliances at incorporate an earth 3)	TESTING	HUAKTESTING	N/A
27.5	Low resistance of connecti terminal and earthed metal	on between earthing parts	AK TESTING	HUAKTEST	N/A
¢	This requirement does not providing earthing continuit extra-low voltage circuit, pr basic insulation are based the appliance	apply to connections y in the protective ovided the clearances of on the rated voltage of	O har testing	O MANTE	N/A
() () () () () () () () () () () () () (Requirements not applicab and class III appliances tha for functional purposes (IEC 60335-1:2010/A1:201	le to class II appliances at incorporate an earth 3)	HUNK TESTING		N/A
O HUAN	Resistance not exceeding low-resistance test ()	0,1 at the specified	STING	D HURIN	N/A
27.6	The printed conductors of pused to provide earthing co appliances.	printed circuit boards not ontinuity in hand-held	AKTE HUAKTESTING	HUAKTEST	N/A
ý.	They may be used to provi other appliances if at least independent soldering poir complies with 27.5 for each	de earthing continuity in two tracks are used with its and the appliance in circuit	-1517116	J.	N/A
0	Requirements not applicab and class III appliances tha for functional purposes (IEC 60335-1:2010/A1:201	le to class II appliances at incorporate an earth 3)	HUAN TESTING	HUAR - TING	N/A
28	SCREWS AND CONNECT	IONS			
28.1	Fixings, electrical connection providing earthing continuit stresses	ons and connections by withstand mechanical	AKTESTING P		Р
O HUI	Screws not of soft metal lia zinc or aluminium	ble to creep, such as	PRUAK TEST	C HUAK IL	Р
G	Diameter of screws of insu 3 mm	lating material min.			NA/
O'	Screws of insulating material electrical connections or content earthing continuity	al not used for any onnections providing	HUAKTESTIN	O HUAK TE	N/A

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TING	ESTING OHU	J 60335-2-98	Jr Stille	TEST	NG OHO.
Clause	Requirement + Test	HUAK .	Result - Remark	HUAK	Verdict
Ģ	Screws used for electrical co connections providing earthin into metal	nnections or ng continuity screwed	w TESTING	- KTE	N/A
0*	Screws not of insulating mate replacement by a metal scree supplementary or reinforced	erial if their w can impair insulation	C HUM	O HUL	N/A
O HUAKTE	For type X attachment, screw replacement of supply cord of maintenance, not of insulatin replacement by a metal screw insulation	vs to be removed for or for user g material if their w impairs basic	A TESTING	HUAKTESTING	N/A
STITE O HUI	For screws and nuts; torque table 14	-test as specified in	(see appended tab	le)	Р
28.2	Electrical connections and co earthing continuity constructed pressure is not transmitted the insulating material liable to st	onnections providing ed so that contact prough non-ceramic hrink or distort, unless	IN TESTING	1. MAKTE	N/A
0	there is resiliency in the meta compensate for shrinkage or insulating material	allic parts to distortion of the	O IS NOT	O tru	Р
C HUAK TES	This requirement does not ap for which:	oply to electrical connec	tions in circuits of a	opliances	N/A
	- 30.2.2 is applicable and exceeding 0,5 A	that carry a current not	AX TESTING		N/A
STING O HUI	- 30.2.3 is applicable and exceeding 0,2 A	that carry a current not	HUANTESTIN	O HUAK TEST	N/A
28.3 ø	Space-threaded (sheet meta electrical connections if they together	I) screws only used for clamp the parts	-TING		N/A
•	Thread-cutting (self-tapping) rolling screws only used for e they generate a full form star thread	screws and thread electrical connections if indard machine screw	MARTIE .	C PRUAKTE	N/A
O HUAN TEE	Thread-cutting (self-tapping) they are likely to be operated installer	screws not used if I by the user or	O HONG	HUAKTESTIN	N/A
STING HUI	Thread-cutting, thread rolling connections providing earthin connection:	and space threaded so ng continuity provided it	crews may be used i is not necessary to	n disturb the	N/A
Ŵ	- in normal use,	W		w.	N/A
	- during user maintenance,				N/A
96 16	- when replacing a supply co attachment, or	rd having a type X	HUAKTESTING	HUAKTE	N/A
	- during installation	W		Ŵ	N/A

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	Fage 51 01 94	Report No., TIK2 1091	01137-31
CTING	J 60335-2-98	TING	No Ou
Clause	Requirement + Test	Result - Remark	Verdict
G	At least two screws being used for each connection providing earthing continuity, unless		N/A
0	the screw forms a thread having a length of at least half the diameter of the screw	HUANTESING HUANTE	N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity	HUAKTESTING	N/A
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or	au restrict	N/A
STING	if an alternative earthing circuit is provided	W TESTING	N/A
G IN	Rivets for electrical connections or connections providing earthing continuity secured against loosening if the connections are subjected to torsion		N/A
29	CLEARANCES, CREEPAGE DISTANCES AND SC	OLID INSULATION	N/A
0	Clearances, creepage distances and solid insulation withstand electrical stress	-1845	N/A
O HUAN TE	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), annex J applies	HUAKTESTING	N/A
лĞ	The microenvironment is pollution degree 1 under type 1 protection	AV TESTING	N/A
O HU	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	HANTES IN HUAKTES	N/A
16 16	These values apply to functional, basic, supplementary and reinforced insulation	WAK TESTING	N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	HUAKTESTING	N/A
O HOM	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		N/A
STING	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable	AR	N/A

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	AK TESTI	Page 52 of 94	Report No	.: HK210918113	57-SF
CTING	TSTING OHU	J 60335-2-98	TING	resting	D HO.
Clause	Requirement + Test	KTED HUAK I	Result - Remark	Ver	dict
i ⁶	For appliances intended exceeding 2 000 m, the c increased according to th values in Table A.2 of IEC (IEC 60335-1:2010/A1:20	for use at altitudes clearances in Table 16 is ne relevant multiplier C 60664-1 D13)	HUNK TESTING	N/	/A
	Impulse voltage test is no	ot applicable:	TESTING	N/	/A
HUAKT	- when the microenvironn or	nent is pollution degree 3,	O HUMAN	HUN TESTING N/	/A
Ŵ	- for basic insulation of cl appliances	ass 0 and class 01	AKTESTING	N/	/A
STING	- to appliances intended for exceeding 2 000 m (IEC 6	or use at altitudes 60335-1:2010/A1:2013)	HUAK TESTING	M HUNK TEST N/	/A
<i>w</i>	Appliances are in overvo	Itage category II		N/	/A
ß	A force of 2 N is applied t than heating elements	to bare conductors, other	TESTING	N/	/A
8	A force of 30 N is applied	I to accessible surfaces	HUNK	N/	/A
29.1.1	Clearances of basic insul overvoltages, taking into voltage	ation withstand the account the rated impulse	HUAN TESTING	N/	/A
O HUAK	The values of table 16 or clause 14 are applicable	the impulse voltage test of	-m ^c	N/	/A
	Clearance at the terminal heating elements may be microenvironment is pollu	ls of tubular sheathed reduced to 1,0 mm if the ution degree 1	ANTES	N/	/A
Ŵ	Lacquered conductors of bare conductors	windings considered to be	0.	• N/	/A
29.1.2	Clearances of supplement than those specified for b	ntary insulation not less basic insulation in table 16	HUAKTESTING	N/	/A
29.1.3	Clearances of reinforced those specified for basic using the next higher ste	insulation not less than insulation in table 16, p for rated impulse voltage	HUN TESTING	N/	/A
STING	For double insulation, wit conductive part between insulation, clearances are parts and the accessible system is treated as reint	h no intermediate basic and supplementary e measured between live surface, and the insulation forced insulation	AN TESTING	N/	/A
29.1.4	Clearances for functional	insulation are the largest v	alues determined from	n: N/	/A
	- table 16 based on the ra	ated impulse voltage:	(see appended table	e) N/	/A
р. Дан	- table F.7a in IEC 60664 exceeding 30 kHz	-1, frequency not	HUNKTESTING	N/	/A
	- clause 4 of IEC 60664-4 30 kHz	I, frequency exceeding	TESTING	N/	/A

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TING	J 60335-2-98	or mus most	NG OHD
Clause	Requirement + Test	Result - Remark	Verdict
J.	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or	WAX TESTING WAX TE	N/A
0)	the distances can be affected by wear, distortion, movement of the parts or during assembly	-1115	N/A
HUAKTES	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited	HUAKTESTING	N/A
-1G	Lacquered conductors of windings considered to be bare conductors	AN TESTIC	N/A
STIL O HU	However, clearances at crossover points are not measured	HUANTESIN O HUANTES	N/A
-	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A
29.1.5	Appliances having higher working voltages than rate insulation are the largest values determined from:	d voltage, clearances for basic	N/A
	- table 16 based on the rated impulse voltage:		N/A
OKTES	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz	HUNK TESTING	N/A
O HOW	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz	TESTING O PAR	N/A
STING	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation	NAK TESTING	N/A
β Ø	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation	MUAKTESTING	N/A
O HUAKTE	If clearances for basic insulation are selected from clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation	HUAKTESTING	N/A
STING	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage	AN WANTESTING HUANTEST	N/A

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TING	J 60335-2-98	TING	NG OHO
Clause	Requirement + Test	Result - Remark	Verdict
6	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15	HUAKTESTING	N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree	(see appended table)	N/A
0	Pollution degree 2 applies, unless	all Other	N/A
TING	- precautions taken to protect the insulation; pollution degree 1	AK 175500	N/A
0"	- insulation subjected to conductive pollution; pollution degree 3	HIANTER HIAN	N/A
6	Electrode-type appliances, the microenvironment of the insulation supporting the electrodes is pollution degree 3 (IEC 60335-2-98)	W TESTING	N/A
0	A force of 2 N is applied to bare conductors, other than heating elements	O Hola	N/A
	A force of 30 N is applied to accessible surfaces	NG NAK TESTING	N/A
O HUNKT	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system	AKTESTING	N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17	(see appended table)	N/A
6	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17	HUAKTESTING HUAKTE	N/A
C HUNKT	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14	HUAKTESTING	N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	(see appended table)	N/A
0"	Table 2 of IEC 60664-4, as applicable	HUAK IL OHUME	N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or	(see appended table)	N/A
	Table 2 of IEC 60664-4, as applicable	HUAK TEST	N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18	(see appended table)	N/A

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	Why TES	Page 55 of 94	Report I	NO.: HK21091	81137-SF
TING	TISTING OHL	J 60335-2-98	S. STING	a rest	NG OHO.
Clause	Requirement + Test	HUAR .	Result - Remark	C HUAN	Verdict
م ا	However, if the working voltage a frequency exceeding 30 kHz distances are also determined IEC 60664-4, these values bein the values in table 18	e is periodic and has the creepage from table 2 of ng used if exceeding	e nux restruc	NUMATE	N/A
WAKTE	Creepage distances may be re appliance complies with clause functional insulation short-circu	duced if the 19 with the ited	NUM TESTING	MAKTESTING	N/A
29.3	Supplementary and reinforced adequate thickness, or a suffic layers, to withstand the electric	insulation have ent number of al stresses	NYTESTING	0	N/A
ESTING - UI	Compliance checked:	HUAKTEST	JAK TESTING	- WUAK TEST	N/A
0	- by measurement, in accordar	ce with 29.3.1, or	0	0	N/A
G	- by an electric strength test in 29.3.2, or	accordance with	Blas		N/A
0	- for insulation, other than single insulation, by an assessment of the material combined with an e in accordance with 29.3.3, and (IEC 60335-1:2010/A1:2013)	e layer internal wiring the thermal quality of lectric strength test,	HUAKTESTING	HIAN TE	N/A
O HUAK I	for accessible parts of reinforce consisting of a single layer, by accordance with 29.3.4, or	ed insulation measurement in	WTESTING (HUAKTE	N/A
esting H	- by an assessment of the thern material according to 29.3.3 cor electric strength test in accorda each single layer internal wiring each other, or (IEC 60335-1:20	nal quality of the nbined with an nce with 23.5, for insulation touching 10/A1:2013)	UNIAN TESTING	HUAK TEST	N/A
	- as specified in subclause 6.3 insulation that is subjected to a having a frequency exceeding	of IEC 60664-4 for ny periodic voltage 30 kHz	HUAKTESTING	C HUAKTE	N/A
29.3.1	Supplementary insulation have least 1 mm	a thickness of at	AK TESTING		N/A
C HUAKTE	Reinforced insulation have a th 2 mm	ickness of at least	0 100	HUAKTESTI	N/A
29.3.2	Each layer of material withstan strength test of 16.3 for supple	d the electric mentary insulation	AKTESTING		N/A
O HI	Supplementary insulation cons layers	ist of at least 2	C HUNK TESTIN	O HUAK TES!	N/A
	Reinforced insulation consist o	f at least 3 layers	~		N/A
29.3.3	The insulation is subjected to the of IEC 60068-2-2, followed by	ne dry heat test Bb	or TESTING	TE	N/A
	the electric strength test of 16.3	B OHUM	O HUM	CO HUM	N/A

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CTING	J 60335-2-98	TING TST	NG OHUN
Clause	Requirement + Test	Result - Remark	Verdict
зс.	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out	TESTING TE	N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19	C HUN	N/A
30	RESISTANCE TO HEAT AND FIRE		Р
30.1	External parts of non-metallic material,	O HO	Р
	parts supporting live parts, and	AK TESTING	Р
STING	parts of thermoplastic material providing supplementary or reinforced insulation	WANTESTING WANTEST	Р
	sufficiently resistant to heat	0	Р
	Ball-pressure test according to IEC 60695-10-2		Р
ء ا	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C)	(see appended table)	Р
HUAK TE	Parts supporting live parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C)	(see appended table)	Р
STING	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)	(see appended table)	Р
30.2	Parts of non-metallic material resistant to ignition and spread of fire	TISTING	Р
0	This requirement does not apply to:	O HUAT	N/A
HUAKT	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or	HUAKTESTING	N/A
- MG	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance	AKTESTING	N/A
. O H	Compliance checked by the test of 30.2.1, and in addition:	HUMPTED HUMPTED	N/A
	- for attended appliances, 30.2.2 applies		N/A
1G	- for unattended appliances, 30.2.3 applies	STING	Р
	For appliances for remote operation, 30.2.3 applies	HUAN TE	N/A
9	For base material of printed circuit boards, 30.2.4 applies	TISTING C	Р

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	TAK TEU	Page 57 of 94	Кероп N	0.: HK21091	81137-56
CTING	rising the	J 60335-2-98	TING	rest	NG OHD.
Clause	Requirement + Test	HUAK I	Result - Remark	HUAK	Verdict
30.2.1	Parts of non-metallic material glow-wire test of IEC 60695-2	subjected to the -11 at 550 °C			N/A
0"	However, test not carried out classified as having a glow-w according to IEC 60695-2-12	if the material is re flammability index of at least 550 °C, or	HUAN TES IN	O HUAKTES	N/A
W TES	the material is classified at lea IEC 60695-11-10	ast HB40 according to	HUAKTESTIN	KTESTING	N/A
O HOM	Parts for which the glow-wire out need to meet the requirer material classified HBF	test cannot be carried nents in ISO 9772 for	AN TESTING	HUM	N/A
30.2.2	Appliances operated while att metallic material supporting c connections, and	ended, parts of non- urrent-carrying	HUNK TESTING	O HUAKTEST	N/A
G	parts of non-metallic material 3mm of such connections,	within a distance of	-Ster		N/A
	subjected to the glow-wire tes	t of IEC 60695-2-11	- WAKTES IN	- HUAK TE	N/A
0	The test severity is:	0	0	0	N/A
19	- 750 °C, for connections carr exceeding 0,5 A during norma	ying a current al operation	HUAKTESTING	TESTING	N/A
HUAN	- 650 °C, for other connection	S HUMAN		HUAN	N/A
	Glow-wire applied to an interp material, if relevant	oosed shielding	AKTESTING		N/A
STING O HUI	The glow-wire test is not carri glow-wire flammability index a	ed out on parts of mate according to IEC 60695	erial classified as have -2-12 of at least:	ving a	N/A
	- 750 °C, for connections carr exceeding 0,5 A during norma	ying a current al operation			N/A
G	- 650 °C, for other connection	S TESTING	TESTING	TES	N/A
0	The glow-wire test is also not	carried out on small pa	arts. These parts are	to:	N/A
NY TE	- comprise material having a index of at least 750 °C, or 65 or	glow-wire flammability i0 °C as appropriate,	HUAKTESTING	NTESTING	N/A
O HOLE	- comply with the needle-flam	e test of Annex E, or		HUN	N/A
GING	- comprise material classified according to IEC 60695-11-10	as V-0 or V-1):	AKTESTING	-71	N/A
O HUI	Glow-wire test not applicable specified	to conditions as	HUAN TESTIN	O HUAK TEST	N/A
30.2.3	Appliances operated while un specified in 30.2.3.1 and 30.2	attended, tested as .3.2	~		Ρ
,- 	The tests are not applicable to specified	conditions as	HUAKTESTIN	HUAKTES	N/A

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	Page	58 01 94	Керс	DIT NO HKZ 109	101137-51
TING	restrice Hu. J	60335-2-98	р 	TING	NG OHU.
Clause	Requirement + Test	the second se	Result - Remar	k HUAN	Verdict
30.2.3.1	Parts of non-metallic material supportin connections carrying a current exceedir during normal operation, and	g ng 0,2 A	TESTIN	3	Р
O ^H	parts of non-metallic material, other tha parts, within a distance of 3 mm,	n small	O HUM	O HUM	Р
TES	subjected to the glow-wire test of IEC 6 with a test severity of 850 °C	0695-2-11	HUAKTESTING	TESTING	Р
O HUM	Glow-wire applied to an interposed shie material, if relevant	lding	TESTING	O HON	N/A
STING	The glow-wire test is not carried out on material classified as having a glow-win flammability index according to IEC 606 at least 850 °C	parts of e 95-2-12 of	AND HANTE	STING HUAN TEST	N/A
30.2.3.2	Parts of non-metallic material supportin connections, and	g		3	Р
0"	parts of non-metallic material within a d 3 mm,	stance of	HUAK TEST	C HUNK TE	Р
	subjected to glow-wire test of IEC 6069	5-2-11	TING		Р
	The test severity is:	ING	HUAKTE	-ESTING	N/A
O HUAK IL	- 750 °C, for connections carrying a cur exceeding 0,2 A during normal operatio	rent n	C ANG	O HUAK IL	N/A
	- 650 °C, for other connections		AKTEST		N/A
STING HUP	Glow-wire applied to an interposed shie material, if relevant	lding	HUAKTE	STING HUNKTEST	N/A
	However, the glow-wire test of 750 °C c on parts of material fulfilling both or eith	or 650 °C as a er of the follo	appropriate, is n wing classificati	ot carried out ons:	N/A
JG	- a glow-wire ignition temperature accor IEC 60695-2-13 of at least:	ding to	HUAKTESTIN	G HUAKTE	N/A
0	- 775 °C, for connections carrying a exceeding 0,2 A during normal operations of the second s	current ation	Contraction of the second seco		N/A
TES	- 675 °C, for other connections	ING	HUAKTE	TESTING	N/A
O HUAN	- a glow-wire flammability index accordi IEC 60695-2-12 of at least:	ng to	TING	O HUAN	N/A
STING	- 750 °C, for connections carrying a cur exceeding 0,2 A during normal operatio	rent	AKTL	STING	N/A
O HUP	- 650 °C, for other connections		HUAK	O HUM	N/A
	The glow-wire test is also not carried out	it on small pa	rts. These parts	are to:	N/A
G	- comprise material having a glow-wire temperature of at least 775 °C or 675 °C	gnition C as	AK TESTIN	G	N/A
	appropriate, or	200			

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TING	J 60335-2-98	Un TING	NG OHUN
Clause	Requirement + Test	Result - Remark	Verdict
le	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	W TESTING	N/A
0	- comply with the needle-flame test of annex E, or	O HUM	N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10	- LAN TESTING	N/A
HUAKTE	The consequential needle-flame test of annex E app encroach within the vertical cylinder placed above the zone and on top of the non-metallic parts supporting and parts of non-metallic material within a distance of these parts are those:	blied to non-metallic parts that ne centre of the connection g current-carrying connections, of 3 mm of such connections if	N/A
0,40	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or	O HUNKTER O HUNKE	N/A
۵ ا	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	HUANTESTING	N/A
MAKTE	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or	HUAN TESTING	N/A
0.	- small parts for which the needle-flame test of annex E was applied, or	AKTESTING	N/A
STING	- small parts for which a material classification of V-0 or V-1 was applied	WARTESTING WURKTEST	N/A
0.	However, the consequential needle-flame test is no parts, including small parts, within the cylinder that a	t carried out on non-metallic are:	N/A
lG	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or	TESTING	N/A
0	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or	O HUM	N/A
O HUAK TE	- parts shielded by a flame barrier that meets the needle-flame test of annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10	HUAKTESTING	N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of annex E	UNKTES IN TIME	Р
A HU	Test not applicable to conditions as specified:	HUAKTES	N/A
31	RESISTANCE TO RUSTING		
JG	Relevant ferrous parts adequately protected against rusting	-stine	Р
	Tests specified in part 2 when necessary	HUAK	N/A
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		

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TING	J 60:	335-2-98	OTING	restl	16 OHU
Clause	Requirement + Test	Result	- Remark	HUAK	Verdict
Q	Appliance does not emit harmful radiation of present a toxic or similar hazard due to the operation in normal use	or ir issing	A TESTING	A TE	Ρ
0*	Compliance is checked by the limits or test specified in part 2, if relevant	s 🛞	ADM.	O HUM	N/A
Α	ANNEX A (INFORMATIVE) ROUTINE TESTS				
O HOL	Description of routine tests to be carried ou manufacturer	t by the		HOM	Р
В	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARG RECHARGED IN THE APPLIANCE	EABLE BATTER	IES THAT AI	RE	
6	The following modifications to this standard applicable for appliances powered by batte are recharged in the appliance	are ries that	-niG		N/A
	This annex does not apply to battery charg	ers	HUAKTES	HUAKTE	N/A
Ø	Three forms of construction covered: (IEC 60335-1:2010/A1:2013)		STING	0	N/A
• HUAKTES	a) Appliance supplied directly from the sup mains or a renewable energy source, the b charging circuitry and other supply unit circ incorporated within the appliance (IEC 60335-1:2010/A1:2013)	oly attery uitry	. 0	HUAKTESTING	N/A
G HUP	b) The part of the appliance incorporating the battery is supplied from the supply mains or renewable energy source, via a detachable unit. The battery charging circuitry is incorp within the part of the appliance containing the battery (IEC 60335-1:2010/A1:2013)	ne r a supply orated he	HUNTESTING	HUAKTESTI	N/A
O HUAKTES	c) The part of the appliance incorporating the battery is supplied from the supply mains or renewable energy source, via a detachable unit. The battery charging circuitry is incorp within the detachable supply unit (IEC 60335-1:2010/A1:2013)	ne r a supply orated	NUAN CONTRACTOR	HUAK TESTING	N/A
3.1.9	Appliance operated under the following cor	iditions:			
STING	- the appliance, supplied by its fully charged battery, operated as specified in relevant pa	1 art 2	TESTING	AKTEST	N/A
0.10	- the battery is charged, the battery being ir discharged to such an extent that the applia cannot operate	nitially ance	HUAN .	O HON	N/A
ء ال	- f possible, the appliance is supplied from t supply mains through its battery charger, th battery being initially discharged to such an that the appliance cannot operate. The app operated as specified in relevant part 2	he le extent liance is	NUAN TESTING	HUAK TE	N/A

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	MAKTER	Page 61 of 94	Report N	10.: HK21091	81137-58
TING	TISTING OF	J 60335-2-98	8	ESTIN	ic Oho
Clause	Requirement + Test	AK TEL	Result - Remark	HUAK	Verdict
6	- if the appliance incorpo between two parts that a other, the appliance is su mains with the detachab	prates inductive coupling are detachable from each upplied from the supply le part removed	HUAK TESTING	HUANTE	N/A
3.6.2	Part to be removed in or not considered to be det	der to discard the battery i achable	S		N/A
5.B.101	Appliances supplied from as specified for motor-op	n the supply mains tested perated appliances	O HUNK	HUAKTESTING	N/A
7.1	Battery compartment for replaced by the user, ma and polarity of the termin	batteries intended to be arked with battery voltage nals	HUAKTESTING		N/A
0 141	The positive terminal ind IEC 60417-5005 and the symbol IEC 60417-5006	licated by symbol e negative terminal by	O HUM TE	O HUAK	N/A
a ()	Appliances intending to I detachable supply unit m 60417-6181 and its type symbol ISO 7000-0790 ((IEC 60335-1:2010/A1:2	be supplied from a narked with symbol IEC reference along with (2004-01), or 2013)	HUAN TESTING	NUAR TE	N/A
MAKTE	use only with <model de<br="">(IEC 60335-1:2010/A1:2</model>	esignation> supply unit: 2013)	O HUNK TESS	MAKTESTING	N/A
7.6	Symbols 60417-5005 an	nd IEC 60417-5006	-NG		N/A
7.12	The instructions give info	ormation regarding	H AKTES		N/A
O ¹⁴¹	The instructions for appli batteries intended to be includes required information	iances incorporating replaced by the user ation	HUAKTE	O HUAK	N/A
ß	Details about how to rem materials hazardous to the	nove batteries containing he environment given	TESTING	TE	N/A
ULAK TE	For appliances intending detachable supply unit for recharging the battery, the detachable supply unit is following: (IEC 60335-1:	g to be supplied from a or the purposes of he type reference of the s stated along with the 2010/A1:2013)	WANTESTING	A HORE	N/A
O	WARNING: For the purp battery, only use the deta provided with this appliar (IEC 60335-1:2010/A1:2	ooses of recharging the achable supply unit nce 2013)	HUAK TESTING		N/A
O m	If the symbol for detachar meaning is explained (IE	able supply unit is used, its EC 60335-1:2010/A1:2013)	Man Ne	O HUM	N/A
7.15 ©	Markings placed on the placed to the supply	part of the appliance mains	TING		N/A
	The type reference of the	TEO .	W TES	NATE	N1/A

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STING	J 60335-2-98	TESTING	No On
Clause	Requirement + Test	Result - Remark	Verdict
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment	HUAN TESTING HUAN TE	N/A
	If the appliance can be operated without batteries, double or reinforced insulation required	-STING	N/A
11.7	The battery is charged for the period stated in the instructions or 24 h	huat testing	N/A
11.8	Temperature rise of the battery surface does not exceed the limit in the battery manufacturer's specification; measured (K); limit (K) (IEC 60335-1:2010/A1:2013)	AKTESTING	N/A
0	If no limit specified, the temperature rise does not exceed 20 K; measured (K) (IEC 60335-1:2010/A1:2013)	0	N/A
19.1	Appliances subjected to tests of 19.B.101, 19.B.102 and 19.B.103	HUAK TESTING HUAK TE	N/A
19.10	Not applicable		N/A
19.B.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged	HUAKTESTING	N/A
19.B.102	For appliances having batteries that can be removed without the aid of a tool, short-circuit of the terminals of the battery, the battery being fully charged,	AN TESTING	N/A
19.B.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction	HUAN TES	N/A
19.13	The battery does not rupture or ignite (IEC 60335-1:2010/A1:2013)	HUAN TESTING	N/A
21.B.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength	-STING	N/A
HUAKT	Part of the appliance incorporating the pins subjecte 2, of IEC 60068-2-31, the number of falls being:	d to the free fall test, procedure	
	- 100, if the mass of the part does not exceed 250 g (g)	ANTESTING	N/A
STING	- 50, if the mass of the part exceeds 250 g	TESTING ANTEST	N/A
0"	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met	O HILM O HUM	N/A
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible	WIAKTESTING	N/A

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STING	J 60335-2-98	TSTING TSTI	10 O
Clause	Requirement + Test	Result - Remark	Verdict
25.13	An additional lining or bushing not required for interconnection cords in class III appliances or class III constructions operating at safety extra-low voltage not containing live parts	HUANTESTING	N/A
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies	TTSTING	N/A
W TE	For other parts, 30.2.2 applies	HUAR	N/A
С	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		
STING	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding	HUAKTESTING HUAKTEST	N/A
<i></i>	Test conditions as specified		N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		
0	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard	O HIAN . O HIAN .	N/A
h	Test conditions as specified	HUNKTES	N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		
STING	Needle-flame test carried out in accordance with IE modifications:	C 60695-11-5, with the following	
7	Severities	HUAN	
	The duration of application of the test flame is $30 \text{ s} \pm 1 \text{ s}$		Ρ
9	Test procedure	TESTING	
9.1	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1	O HIM O HIM	Ρ
9.2	The first paragraph does not apply	HUNK	Р
O HUAN	If possible, the flame is applied at least 10 mm from a corner	-SING	Р
9.3	The test is carried out on one specimen	Waltin	Р
O HU	If the specimen does not withstand the test, the test may be repeated on two additional specimens, both withstanding the test	Mulu restine	N/A
11	Evaluation of test results		
6	The duration of burning not exceeding 30 s	AN TESTING	N/A
0	However, for printed circuit boards, the duration of burning not exceeding 15 s	PCB	Ρ
		and a	

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TING	J 603	335-2-98	STING TS	ING OHO
Clause	Requirement + Test	Result - R	emark	Verdict
F	ANNEX F (NORMATIVE) CAPACITORS			
0	Capacitors likely to be permanently subject radio interference suppression or voltage d clauses of IEC 60384-14, with the following	ted to the supply volutividing, comply with groundifications:	tage, and used for the following	
1.5	Terms and definitions	AKTES	-41G	
1.5.3	Class X capacitors tested according to sub	class X2	- WAK TESTIN	N/A
1.5.4	This subclause is applicable	OWG	0	N/A
1.6	Marking	HUAKTESI		N/A
STING	Items a) and b) are applicable	Luc, D	K TESTING	N/A
3.4	Approval testing	0	low.	N/A
3.4.3.2	Table 3 is applicable as described			N/A
4.1	Visual examination and check of dimension	าร	TING	N/A
	This subclause is applicable	HUA	KTES HUAKT	N/A
4.2	Electrical tests		۲	N/A
4.2.1	This subclause is applicable	NUTEST	10 ¹⁰	N/A
4.2.5	This subclause is applicable	O man	UNAK TESTING	N/A
4.2.5.2	Only table 11 is applicable	OWN	0	N/A
	Values for test A apply	HAK TEST		N/A
STING	However, for capacitors in heating appliand values for test B or C apply	ces the	NAK TESTING HUAK TES	N/A
4.12	Damp heat, steady state			
-	This subclause is applicable			N/A
	Only insulation resistance and voltage proc checked	of are	KTESTING HUAKT	N/A
4.13	Impulse voltage			N/A
	This subclause is applicable	- HUAK TES	STING	N/A
4.14	Endurance	0	HUAKTE	
<u> </u>	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14 applicable	I.7 are	0	N/A
4.14.7	Only insulation resistance and voltage proc checked	of are	NAK TESTING HUAK TES	N/A
	No visible damage		<i>w</i>	N/A
4.17	Passive flammability test			
G	This subclause is applicable	ESTING	TESTING	N/A
4.18	Active flammability test	O HON	O Home	
	This subclause is applicable		ING	N/A

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STING	J 60335-2-98	TSTING TEST	16 0 H
Clause	Requirement + Test	Result - Remark	Verdict
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		
0	The following modifications to this standard are applications to the standard are applications formers:	able for safety isolating	N/A
7	Marking and instructions	TING	
7.1	Transformers for specific use marked with:	HUAKTESTING	
O HUAK	- name, trademark or identification mark of the manufacturer or responsible vendor	TING HUGT	N/A
	- model or type reference	The	N/A
17	Overload protection of transformers and associated cir	cuits	
0	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1	O han O h	N/A
22	Construction	.G.	
0	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable	HUAKTESTIN HUAKTES	N/A
29	Clearances, creepage distances and solid insulation	ING	
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply	HUAKTESTING	N/A
0	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances	TESTING OF	N/A
O HUI	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed	HUAKTESTON HUAKTES	N/A
3 • • • • •	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1	HUAKTESTING	N/A
н	ANNEX H (NORMATIVE) SWITCHES		
Ŵ	Switches comply with the following clauses of IEC 610	58-1, as modified below:	
TING	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance	TESTING AVTEST	N/A
0 10	Before being tested, switches are operated 20 times without load	O HURT O HUR	N/A
3	Marking and documentation		
3	Switches are not required to be marked	W TESTING	N/A
0 [×]	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference	C HOM C HOM	N/A

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TING	J 60335-2-98	UM STING	NG OHU.
Clause	Requirement + Test	Result - Remark	Verdict
13	Mechanism	~	
1 G	The tests may be carried out on a separate sample	STING	N/A
15	Insulation resistance and dielectric strength	HUAN THE HUAN T	
15.1	Not applicable		N/A
15.2	Not applicable	WARTESTING TING	N/A
15.3	Applicable for full disconnection and micro-disconnection	o maxies	N/A
17	Endurance	UAKTESTIN	
STING	Compliance is checked on three separate appliances or switches	HUN TESTING HUN TEST	N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A
ß	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335	NAK TESTING	N/A
0	Switches for operation under no load and which can be operated only by a tool, and		N/A
HAKTE	switches operated by hand that are interlocked so that they cannot be operated under load,	HUANTEST.	N/A
0	are not subjected to the tests	and O I''	N/A
STING	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation	INTEST	N/A
Ø.	Subclauses 17.2.2 and 17.2.5.2 not applicable	0	N/A
(G	The ambient temperature during the test is that occurring in the appliance during the test of clause 11 in IEC 60335-1	TESTING TE	N/A
0	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)	O HUM O HUM	N/A
20	Clearances, creepage distances, solid insulation an assemblies	d coatings of rigid printed board	
TING	Clause 20 is applicable to clearances across full disconnection and micro-disconnection (IEC 60335-1:2010/A1:2013)	AKTESTING TING TST	N/A
0,41	It is also applicable to creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24 (IEC 60335-1:2010/A1:2013)	HUMAN OF HUMAN	N/A
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS RATED VOLTAGE OF THE APPLIANCE	INADEQUATE FOR THE	

FICATION

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	Page 67 01 94	Report N	10.: HK21091	81137-5
TING	J 60335-2-98	n-	TEST	No Ou
Clause	Requirement + Test	Result - Remark	HUAK	Verdic
6	The following modifications to this standard are apprint insulation that is inadequate for the rated voltage of	blicable for motors ha	iving basic	
8	Protection against access to live parts	MAKTESTING	WAKTES	
8.1	Metal parts of the motor are considered to be bare live parts	Om	0	N/A
11	Heating	HUAKTES	STING	
11.3	The temperature rise of the body of the motor is determined instead of the temperature rise of the windings	AN TESTING	HUAR	N/A
11.8	The temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material	WAN TESTING	HUAK TEST	N/A
16	Leakage current and electric strength	_		
16.3	Insulation between live parts of the motor and its other metal parts is not subjected to the test	HUAKTESTING	HUAKTE	N/A
19	Abnormal operation	-6	<i>w</i>	
19.1	The tests of 19.7 to 19.9 are not carried out	WAKTESTIN	TING	N/A
19.1.101	Appliance operated at rated voltage with each of the	e following fault conc	litions:	
-mic	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit	NAK TESTING	-51	N/A
HU	- short circuit of each diode of the rectifier	HUAKTES	HUAKTL	N/A
w	- open circuit of the supply to the motor		<i>w</i>	N/A
ß	- open circuit of any parallel resistor, the motor being in operation	TING		N/A
0	Only one fault simulated at a time, the tests carried out consecutively	HUAN TE	O HUAKTE	N/A
22	Construction	TESTING		
22.I.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation	HUNK .	HUAKTESTING	N/A
STING	Compliance checked by the tests specified for ouble and reinforced insulation	HAN TESTING	WAKTEST	N/A
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS			
ß	Testing of protective coatings of printed circuit boar with IEC 60664-3 with the following modifications:	ds carried out in acc	ordance	
5.7	Conditioning of the test specimens	O HUM	CO HUM	

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	Page 68 of 94	Report No.: HK21091	81137-5
OTING	J 60335-2-98	AL TIME	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
6	When production samples are used, three samples of the printed circuit board are tested		N/A
5.7.1	Cold	WAKTESTANS WAKTE	
	The test is carried out at -25 °C	0	N/A
5.7.3	Rapid change of temperature	TESTING	
NKTE	Severity 1 is specified	HUAN WETESTING	N/A
5.9	Additional tests	-16 O H	
	This subclause is not applicable	MAKTESTR.	N/A
К	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		
Ĩ	The information on overvoltage categories is extracted from IEC 60664-1		N/A
ß	Overvoltage category is a numeral defining a transient overvoltage condition	WANTESTING	N/A
0	Equipment of overvoltage category IV is for use at the origin of the installation		N/A
O HUAKTE	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements	HUAKTESTING	N/A
STING	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation	R AL CLE HUAK TESTING	N/A
6	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N/A
0	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level	HUAN TESTIN	N/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEA DISTANCES	RANCES AND CREEPAGE	
TING	Information for the determination of clearances and creepage distances	HAKTEST.	N/A
Μ	ANNEX M (NORMATIVE) POLLUTION DEGREE		
G	The information on pollution degrees is extracted from IEC 60664-1	A.,	Р
	Pollution	AKTESTING OKTE	

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	Page 69 of 94	Report No.: HK21091	81137-S
TING	J 60335-2-98	TING	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
G	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment	I TESTING	Ρ
0	Means may be provided to reduce pollution at the insulation by effective enclosures or similar	O Hold	Ρ
TE	Minimum clearances specified where pollution may be present in the microenvironment	HUAKTESTING	Ρ
O HUM	Degrees of pollution in the microenvironment	OHUM	
GIG	For evaluating creepage distances, the following de microenvironment are established:	grees of pollution in the	
O HU	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence	HUANTESTIN O HUANTEST	N/A
a O ^Y	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected	HUAKTESTING	N/A
HUNKTES	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected	HUAKTESTING	Ρ
-mic	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow	HAK TESTING	N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		
G	The proof tracking test is carried out in accordance following modifications:	with IEC 60112 with the	N/A
7	Test apparatus	HUAKTESI	
7.3	Test solutions	0.0	
	Test solution A is used	TESTING	N/A
10	Determination of proof tracking index (PTI)	HUAN.	N/A
10.1	Procedure	O No	N/A
TING	The proof voltage is 100 V, 175 V, 400 V or 600 V	NAKTESTIN	N/A
S. HU	The test is carried out on five specimens	HUAK TES IN HUAK TES	N/A
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	In case of doubt, additional test with proof voltage reduced by 25 V, the number of drops increased to 100		N/A
10.2	Report	AK TESTING	N/A

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TING	J 60335-2-98	or magnetic strains	NG OHU
Clause	Requirement + Test	Result - Remark	Verdict
<i>l</i> e	The report states if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V	4 TESTING	N/A
0	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF	clause 30	
NK TES	Description of tests for determination of resistance to heat and fire	HUAKTESING ATESING	N/A
Ρ	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS ST USED IN WARM DAMP EQUABLE CLIMATES	ANDARD TO APPLIANCES	
STING HUR	Modifications applicable for class 0 and 0I appliance exceeding 150 V, intended to be used in countries h climate and that are marked WDaE	s having a rated voltage aving a warm damp equable	
26 M	Modifications may also be applied to class 1 applian exceeding 150 V, intended to be used in countries h climate and that are marked WDaE, if liable to be co excludes the protective earthing conductor	ces having a rated voltage aving a warm damp equable nnected to a supply mains that	
5.7	The ambient temperature for the tests of clauses 11 and 13 is 40 +3/0 °C	SING	N/A
7.1	The appliance marked with the letters WDaE	HUAN STESTING	N/A
7.12	The instructions state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA	au restine	N/A
O HUN	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries	Max IL MAR	N/A
11.8	The values of Table 3 are reduced by 15 K	K TESTING	N/A
13.2	The leakage current for class I appliances not exceeding 0,5 mA	O Hor O Hor	N/A
15.3	The value of t is 37 °C	UAK TESTING	N/A
16.2	The leakage current for class I appliances not exceeding 0,5 mA (mA):	HUNK TES.	N/A
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3	all testing	N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION C	OF ELECTRONIC CIRCUITS	
	Description of tests for appliances incorporating electron	ctronic circuits	Р
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		

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	WAKTL	Page 7 1 01 94	Report No HK21	09101137-51
TING	TISTING OF	J 60335-2-98	TING	ESTING OH
Clause	Requirement + Test	HUAK	Result - Remark	Verdict
G	Programmable electronic ci incorporating measures to o conditions specified in table accordance with the require	rcuits requiring software control the fault/error R.1 or R.2 validated in ements of this annex	HUAN TESTING	N/A
R.1	Programmable electronic ci	rcuits using software		N/A
O HUAKTEE	Programmable electronic ci incorporating measures to o conditions specified in table so that the software does n with the requirements of thi	rcuits requiring software control the fault/error R.1 or R.2 constructed ot impair compliance s standard	NUAKTESTING	""SN/A
R.2	Requirements for the archit	ecture	STING	N/A
6	Programmable electronic ci incorporating measures to o conditions specified in table measures to control and av faults/errors in safety-relate safety-related segments of	rcuits requiring software control the fault/error R.1 or R.2 use oid software-related d data and the software	MALANTESTING	N/A
R.2.1.1	Programmable electronic ci control the fault/error condit structures:	rcuits requiring software ions specified in table R.	incorporating measures to 2 have one of the following	N/A
C HUAK TES	- single channel with period monitoring	ic self-test and	HUAKTEST	N/A
	- dual channel (homogenou	s) with comparison	AK TESTING	N/A
TING	- dual channel (diverse) with	n comparison	TING	N/A
O HU	Programmable electronic ci control the fault/error condit structures:	rcuits requiring software ions specified in table R.	incorporating measures to 1 have one of the following	N/A
G	- single channel with function	nal test	Dia	N/A
	- single channel with period	ic self-test	HUAK TESTIN	N/A
0	- dual channel without comp	parison	0. 0.	N/A
R.2.2	Measures to control faults/e	errors	TESTING	N/A
R.2.2.1	When redundant memory w provided on two areas of th data in one area is stored in that in the other area	rith comparison is e same component, the n a different format from	N TESTING	N/A
R.2.2.2	Programmable electronic cirequiring software incorpora control the fault/error condit R.2 and that use dual chan comparison, have additiona means for any fault/errors n comparison	rcuits with functions ating measures to ions specified in table nel structures with I fault/error detection ot detected by the	HUAKTESTING	N/A

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	G HUAN TEL	Page 72 01 94	Report	NU TIKZ 1091	01137-51
STING	TESTING O	J 60335-2-98	TESTING	KTEST	in O.
Clause	Requirement + Test	HUAN	Result - Remark	HUAN	Verdict
R.2.2.3	For programmable electro requiring software incorpo control the fault/error cond R.1 or R.2, means are pro and control of errors in tran safety-related data paths	nic circuits with functions rating measures to itions specified in table vided for the recognition nsmissions to external	nuw restruc	• HUAKTE	N/A
R.2.2.4	For programmable electro requiring software incorpo control the fault/error cond R.1 or R.2, the programma incorporate measures to a safety-related segments a R.1 and R.2 as appropriate	nic circuits with functions rating measures to litions specified in table able electronic circuits ddress the fault/errors in nd data indicated in table e	AKTESTING	HUNTESTING	N/A
R.2.2.5	For programmable electro requiring software incorpo control the fault/error cond R.1 or R.2, detection of a t compliance with clause 19	nic circuits with functions rating measures to litions specified in table fault/error occur before is impaired	New York TESTING		N/A
R.2.2.6	The software is referenced operating sequence and th functions	to relevant parts of the ne associated hardware	TESTING	O How	N/A
R.2.2.7	Labels used for memory lo	ocations are unique	C HUM	AKTESTING	N/A
R.2.2.8	The software is protected safety-related segments a	from user alteration of nd data	TESTING	D Ho.	N/A
R.2.2.9	Software and safety-relate control is initialized and te compliance with clause 19	d hardware under its rminates before is impaired	HUAK TESTING	HUAKTEST	N/A
R.3	Measures to avoid errors				
R.3.1	General				
	For programmable electro measures to control the fa following measures to avo	nic circuits with functions r ult/error conditions specifi id systematic fault in the s	requiring software ir ed in table R.1 or R oftware are applied	ncorporating .2, the	N/A
HUAK TE	Software that incorporates control the fault/error cond R.2 is inherently acceptab control the fault/error cond R.1	measures used to itions specified in table le for software required to itions specified in table	HUAN TESTING	HUANTESTING	N/A
R.3.2	Specification	TING STING OF	Upr - Mar		
R.3.2.1	Software safety requireme	ents:	Software Id:	HUAKTES	N/A
	The specification of the so requirements includes the	ftware safety descriptions listed			N/A
R.3.2.2	Software architecture	NG TING	TING		
<u>ı</u>	12		1621	10	

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TING	J 60335-2-98	TING	STING OH
Clause	Requirement + Test	Result - Remark	Verdict
R.3.2.2.1	The specification of the software architecture includes the aspects listed	Document ref. No:	N/A
0	- techniques and measures to control software faults/errors (refer to R.2.2);	HUAKTESTIN	res
	- interactions between hardware and software;	and	
TAKTE	- partitioning into modules and their allocation to the specified safety functions;	HUAK TEST.	
One	<ul> <li>hierarchy and call structure of the modules (control flow);</li> </ul>	e resting	
MG	- interrupt handling;	An	-11
SIN. HU	- data flow and restrictions on data access;	HUAK TESTIN	
<b>O</b>	- architecture and storage of data;	0	
	- time-based dependencies of sequences and data		
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis	HUAKTESTING	N/A
R.3.2.3	Module design and coding	TING	N/A
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules	HUM TESTING	N/A
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements	ar restard	N/A
R.3.2.3.2	Software code is structured	- HUAKTESTIC - HUAKTE	N/A
R.3.2.3.3	Coded software is validated against the module specification by static analysis	<u> </u>	N/A
le	The module specification is validated against the architecture specification by static analysis	JAK TESTING	N/A
R.3.3.3	Software validation	0,	N/A
INKTE	The software is validated with reference to the requirements of the software safety requirements specification	HUNCTESTING	N/A
0	Compliance is checked by simulation of:		N/A
	- input signals present during normal operation	AKTESTIN	N/A
STING	- anticipated occurrences	ESTING TE	N/A
O H	- undesired conditions requiring system action	Church Church	N/A

TABLE R.1 ^e – GENERAL FAULT/ERROR CONDITIONS								
Component	Fault/error	Acceptable measures ^{b, c}	Definitions	Document reference for applied measure	Document reference for applied test	Ver-di ct		

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		Page 74 of 94	4 NAKTES	Report No	.: HK210918	1137-SF
TING	resting the	J 60335-	2-98	TING	TESTING	O HU
Clause	Requirement	+ Test	Result -	Remark	HUAK	Verdict
1 CPU						N/A
1.1 Registers	Stuck at	Functional test, or periodic self-test using either:	H.2.16.5 H.2.16.6	AKTESTING	HUAK TEST	ġĜ
		- static memory test, or	H.2.19.6	TING		
HUAKTEST	ß	- word protection with single bit redundancy	H.2.19.8.2		NUAKTESTING	(
1.2 VOID		STING	STING			N/A
1.3	Stuck at	Functional test, or	H.2.16.5		- Sico	N/A
Programme	ESTIT.	Periodic self-test, or	H.2.16.6	NK TESTING	IN LAK TESTIN	
counter		Independent time-slot monitoring, or	H.2.18.10.4	HUM	0 "	
G	TESTING	Logical monitoring of the programme sequence	H.2.18.10.2	TESTING	TEST	i i i i i i i i i i i i i i i i i i i
2	No	Functional test, or	H.2.16.5	bu	C HUAN	N/A
Interrupt	interrupt or	time-slot monitoring	H.2.18.10.4	GIA		
and execution	frequent interrupt	HUAKTESTING	O HUAKT	5711	UAKTESTING	
3	Wrong	Frequency monitoring, or	H.2.18.10.1	0	1-	N/A
Clock	frequency (for quartz synchroniz ed clock: harmonics/ sub-harmo nics only)	time slot monitoring	H.2.18.10.4	HUAKTESTING	HUAK TESTING	O HUP
4. Memory	A TESTING	W TESTING		AK TESTING	JAK TEST	N/A
4.1	All single	Periodic modified checksum, or	H.2.19.3.1		O HU	
Invariable	bit faults	multiple checksum, or	H.2.19.3.2	STING		
HUAKTEST	ß	word protection with single bit redundancy	H.2.19.8.2		NUAKTESTING	
4.2	DC fault	Periodic static memory test, or	H.2.19.6			N/A
memory	ESTING HU	word protection with single bit redundancy	H.2.19.8.2	W TESTING	IAK TESTING	<b>O</b> ^{HUA}
Other		O HUM O H	0	HUM	0	
4.3 Addressing (relevant to variable and invariable memory)	Stuck at	Word protection with single bit redundancy including the address	H.2.19.8.2	AN TESTING	HUNKTEST	N/A

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TING		J 60335-	2-98			
Clause	Requirement	+ Test	Result -	Remark	HUAK	Verdict
5 Internal data path	Stuck at	Word protection with single bit redundancy	H.2.19.8.2	e testing	TESTI	N/A
5.1 VOID		O HUNA	0	Pro-	O HUM	N/A
5.2 Addressing	Wrong address	Word protection with single bit redundancy including the address	H.2.19.8.2	STING	N TESTING	N/A
6 External	Hamming distance 3	Word protection with multi-bit redundancy, or	H.2.19.8.1	0)	OH:	N/A
ion	ESTING OHUP	CRC – single work, or Transfer redundancy, or Protocol test	H.2.19.4.1 H.2.18.2.2 H.2.18.14	HUNKTESTING	HUNKTESTING	OHUA
6.1 VOID						N/A
6.2 VOID	STING	STING	5	STING	STI	ି N/A
6.3	Wrong	Time-slot monitoring, or	H.2.18.10.4	AKTE	HUAKTED	N/A
Timing 🤍	point in	scheduled transmission	H.2.18.18	~	w.	
AKTEST	in in c	Time-slot and logical monitoring, or	H.2.18.10.3	STING	AKTESTING	
O HUL	ALM .	comparison of redundant communication channels by either:	WAX TESTING	0)	Dr.	au A
STING	ESTING On	- reciprocal comparison	H.2.18.15	TESTING	W TESTING	Om
O HIAN		<ul> <li>independent hardware comparator</li> </ul>	H.2.18.3	HUAKI	C HUAN	
	Wrong	Logical monitoring, or	H.2.18.10.2			
G	sequence	time-slot monitoring, or	H.2.18.10.4	TESTING	TESTIN	3
(C) HU	35	Scheduled transmission	H.2.18.18	pr	CO HUAN	
7 Input/output	Fault conditions	Plausibility check	H.2.18.13	STING	and	N/A
peripriery	19.11.2	HUAK TESTAL	O HO.		UAKTESTI	
7.1 VOID		TING	TING			N/A
7.2 Analog I/O	ESTING OHUP	CTESTING TESTING	O HUAKTES	TESTING	w TESTING	N/A
7.2.1 A/D and D/A- converter	Fault conditions specified in 19.11.2	Plausibility check	H.2.18.13	HUAKL	C HUAN	
7.2.2 Analog multiplexer	Wrong addressing	Plausibility check	H.2.18.13	AKTESTING	HUAN TEST	N/A
8 VOID		resting		STING		N/A

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		KTESI.	Page 76 of 94	WTES !!	Report N	lo.: HK2109	181137-SF
TING	ESTING OHU	TING	J 60335-2-	98	CTING		NG OHUM
Clause	Requirement	+ Test	HUAK	Result -	Remark	HUAK	Verdict
			w.	6	9	Ŵ	
9 Custom chips ^d e.g. ASIC, GAL, gate array	Any output outside the static and dynamic functional specificatio n	Periodic self-test	HUAKTESTING	1.2.16.6	AK TESTING STING	• HUNGTE	N/A
NOTE A St level. A DC f	uck-at fault m ault model de	odel denotes a fau enotes a stuck-at fa	It model represen ult model incorpo	nting an oper prating short	n circuit or circuit betv	a non-varyin veen signal l	g signal 🤇 ines.
<ul> <li>^{a)} For fault/er</li> <li>^{b)} For each s</li> <li>^{c)} Where mod</li> <li>^{d)} To be divid</li> <li>^{e)} Table R.1</li> </ul>	rror assessme ub-function ir re than one m led as necess is applied acc	ent, some component the table, the Tab neasure is given for sary by the manufa cording to the requi	ents are divided in le R.2 measure v a sub-function, t cturer into sub-fu rements of R.1 to	nto their sub- vill cover the hese are alto nctions. 9 R.2.2.9 incl	-functions. software fa ernatives. usive.	ault/error.	NG OHUN

S	ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE					
HUAKTE	The following modifications to this standard are applicable for battery-operated appliances where the batteries are either non-rechargeable (primary batteries), or	HUAKTESTING	N/A			
	rechargeable batteries (secondary batteries) that are not recharged in the appliance	ay resting	N/A			
5.8.1	If the supply terminals for the connection of the battery have no indication of polarity, the more unfavourable polarity is applied	HAN TESTING	N/A			
5.S.101	Appliances intended for use with a battery box are tested with the battery box supplied with the appliance or with the battery box recommended in the instructions	ACTESTING AND	N/A			
5.S.102	Appliances are tested as motor-operated appliances.	O H	N/A			
7.1	Appliances marked with the battery voltage (V) and the polarity of the terminals, unless	HUNK TESTING	N/A			
O HOL	the polarity is irrelevant	C PROM	N/A			
	Appliances also marked with:	UNKTESTING	N/A			
ESTING HU	- name, trade mark or identification mark of the manufacturer or responsible vendor	WANTESTING HUANTEST	N/A			
Ŵ	- model or type reference	0	N/A			
NG	- IP number according to degree of protection against ingress of water, other than IPX0	anti	N/A			
	- type reference of battery or batteries	HUAN TEST	N/A			

**T** 591

### TRF No. IEC60335_2_98G

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	AK TED	Page 77 of 94	Report N	NO.: HK2109	181137-S
TING	ESTING O HU	J 60335-2-98	JANG		ING OHO
Clause	Requirement + Test	HUAKIL	Result - Remark	HUAK	Verdict
6	If relevant, the positive term symbol IEC 60417-5005 an by the symbol IEC 60417-5	inal is indicated by the d the negative terminal 006	TESTING		N/A
0	If appliances use more than marked to indicate correct p the batteries	one battery, they are polarity connection of	HUM HUM	O HUM	N/A
7.6	Additional symbols	TESTING	HUAK	TESTING	N/A
7.12	The instructions contain the	following, as applicable:		HUM	N/A
	- the types of batteries that	may be used:	AK TESTING		N/A
TING	- how to remove and insert	the batteries	TING	-65	N/A
O HU	- non-rechargeable batterie recharged	s are not to be	MUNKILL.	O HUAR IS	N/A
ũ.	- rechargeable batteries are appliance before being cha	to be removed from the rged	Dia		N/A
0	- different types of batteries batteries are not to be mixe	or new and used d	C HUNKTESTI	O HUAK T	N/A
	- batteries are to be inserted polarity	d with the correct	ALC TESTING	Ole	N/A
C HUAK TE	- exhausted batteries are to appliance and safely disposed	be removed from the sed of	On	HUAK TEST	N/A
	- if the appliance is to be sto period, the batteries are ren	pred unused for a long noved	AK TESTING		N/A
STIME HU	- the supply terminals are no	ot to be short-circuited	UAK TESTIN	HUAKTES	N/A
11.5 🤍	Appliances are supplied wit	h the most unfavourable	supply voltage betw	veen	N/A
G	- 0,55 and 1,0 times the bat appliance can be used with batteries	tery voltage, if the non-rechargeable	TESTING		N/A
0	- 0,75 and 1,0 times battery is designed for use with rec	voltage, if the appliance hargeable batteries only	O HUN	O HUM	N/A
HUNKTE	The values specified in Tab resistance per cell of the ba account	le S.101 for the internal ttery is taken into	HUAK TESTING	HUAKTESTING	N/A
19.1	The tests are carried out wi charged unless otherwise s	th the battery fully pecified	AK TESTING	Ð	N/A
19.13	The battery does not ruptur	e or ignite	TESTING	W TEST	N/A
19.S.101	Appliances are supplied wit in 11.5. The supply termina of polarity are connected to unless	h the voltage specified Is having an indication the opposite polarity,	O HUAR	O HOPE	N/A
6	such a connection is unlikel construction of the appliance	y to occur due to the e	HUNKTESTIN	HUAKT	N/A

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			Page 78 of 94	Report	No.: HK2109 [,]	181137-SI
TING	-STING O HUM	TING	J 60335-2-98	Jun - TIM	3	NG OHU
Clause	Requirement + Test	JAKTES	HUAK	Result - Remark	HUAK	Verdict
<i>w</i>	<u> </u>		<i>w</i>		<i>w</i>	
19.S.102	For appliances with pro one or more of the batt appliance is operated, allowed by the construct	vision for eries are f reversa ction	multiple batteries, reversed and the l of batteries is	HUARTESTING	HUANTE	N/A
25.5	The flexible leads or fle an external battery or b the appliance by a type	xible core attery bo X attach	d used to connect x in is connected to ment	HUAK TESTING	STING	N/A
25.13	This requirement is not leads or flexible cord co or a battery box with ar	applicab onnecting appliance	le to the flexible external batteries æ	W TESTING	HUAK TE	N/A
25.S.101	Appliances have suitable the battery. If the type of appliance, the means of this type of battery	le means of battery of connec	for connection of is marked on the tion is suitable for	nuak restau	in the second second	N/A
26.5 ©	Terminal devices in an of the flexible leads or external battery or batters shielded that there is n connection between su	appliance lexible co ery box a prisk of a pply term	e for the connection ord connecting an re so located or loccidental linals	HUAKTESTING	HUAKTE	N/A
30.2.3.2	There is no battery in the cylinder used for the contest, unless	ne area o Insequen	f the vertical tial needle flame	C HUAN TESTING	HUAKTESTING	N/A
[©]	the battery is shielded needle flame test of an	oy a barri nex E, or	er that meets the	AKTESTING	9	N/A
STING	that comprises materia according to IEC 6069	classifie 5-11-10	d as V-0 or V-1	HAK TESTIN	3 HUAKTEST	N/A

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### TRF No. IEC60335_2_98G

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	NK TEN	Page 79 of 94	Report No.: H	K2109181137-SR
OTING	TESTING OHUM	J 60335-2-98	UM	ESTING OHUM
Clause	Requirement + Test	HUAK	Result - Remark	Verdict
Claube	rtequirement : rest		Result Remain	83

10.1	TABLE: Pov	wer input deviation	on 🔬		NG	N/A
Input dev	viation of/at:	P rated (W)	P measured (W)	ΔΡ	Required $\Delta P$	Remark
8	9		<b>V</b>	©	<b></b>	
		TESTING		TES	ANG .	
Supplem	entary informatio	n: N/A	AK TESTING	HUNK	W TES	Inve

10.2	TABLE: Curre	nt deviation		MAKTESTING		P
Current dev	viation of/at:	I rated (A)	I measured (A)	Δ١	Required ∆ I	Remark
5	VDC	2A	1.88A	-6%	+15%	PASS

(G)					-16
11.8	TABLE: Heating test				Р
	Test voltage (V)	:	5.3VDC		
	Ambient (°C)	T1= 23.1°C	C, T2= 23.2°C		
Thermoo	couple locations:	Max. temp measure	erature rise d, Δ T (K)	Max. tempera limit, Δ T	ture rise (K)
Test corr	ner	3	9.9	60	HUP
PCB	NY TESTING	In the I	2.7	95/CI.3	0
Internal w	wire	8	3.3 O ^{HUM}	80-25=5	55
Plastic e	nclosure	6	6.4	130-25=1	105
Battery s	surface	1	0.4	Ref.	MG
	45 ¹¹		~5	4. A.	511.2

.8 TABLE: Heating test, resistance method						N/A
Test voltage (V)			TES	ING	0	_
Ambient, t1 (°C)		:	O HUM	AAKT	STINE	_
Ambient, t2 (°C)		:	NG	O m		_
ire rise of winding:	R1 (Ω)	R2 (Ω)	ΔΤ(Κ)	Max. Δ T (K)	lns c	ulation lass
Nr	HUAK TES	HUAK		WAX TED HI	AK	
w		ar .		0		
	TABLE: Heating test         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         Ire rise of winding:	TABLE: Heating test, resistance         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         re rise of winding:         R1 (Ω)	TABLE: Heating test, resistance method         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         Irre rise of winding:         R1 (Ω)         R2 (Ω)	TABLE: Heating test, resistance method         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         Irre rise of winding:         R1 (Ω)         R2 (Ω)	TABLE: Heating test, resistance method         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         Irre rise of winding:       R1 (Ω)         R2 (Ω)       Δ T (K)	TABLE: Heating test, resistance method         Test voltage (V)         Ambient, t1 (°C)         Ambient, t2 (°C)         Irre rise of winding:       R1 (Ω)         R2 (Ω)       Δ T (K)         Max. Δ T (K)       Ins.

Supplementary information:

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	NY TED	Page 80 of 94	Report N	10.: HK2109181137-SH
CTING	resting OHUN	J 60335-2-98	JA	TESTING OHUN
Clause	Requirement + Test	HUART	Result - Remark	Verdict

13.2	TABLE: Leakage current	TING		mig P
	Heating appliances: 1.15 x rated input (W):	HUAK TED	HUAKTE	
0	Motor-operated and combined appliances: 1.06 x rated voltage (V)	5.3VD	0	—
Leakage	current between:	l (mA)	Max. allow	ed I (mA)
SELV cir	cuit and enclosure	0.003	0.7	,
Supplem	entary information: N/A	TESTING		

13.3 TABLE: Dielectric strength	HUAK	HUAKTE	HUAK	Р
Test voltage applied between:		tential applied (V)	Breakdown / flashover (Yes/No)	
SELV insulation	- WAKTEST	500	No	
Supplementary information: N/A	0	0	0	

14	14 TABLE: Transient overvoltages		AKTESTING	HUAN	AKTEST	WC.	N/A
Clearar	nce between:	CI (mm)	Required CI (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Fla (Y	ashover ′es/No)
STING	MAKTESTIN"	NAK TESTING	MAKTESTING	9	K TESTING	TESTI	
Suppler	mentary information:						

FIS I

16.2	TABLE: Leakage current	-m	G	P P	
0	Single phase appliances: 1.06 x rated voltage (V):	d voltage 5.3VDC		HUM TC	
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V):				
Leakage	current between:	l (mA)	Max. allowe	ed I (mA)	
SELV cire	cuit and enclosure	0.003	0.5		
Supplem	entary information: N/A	JAKTL		G HUAN	

16.3	TABLE: Dielectric strength	O.m.	O muan	O HUL	Р
Test voltage	e applied between:		Test potential applied (V)	Breakdov flashov (Yes/No	vn / er o)
SELV insula	tion	O HUAN	500	No	
Supplement	ary information: N/A		alG		

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		Page 81 of 94	Кероп N	0.1 HK2109181137-SR
CTING	TESTING O HUM	J 60335-2-98	UM	resting thum
Clause	Requirement + Test	HUAN	Result - Remark	Verdict

17	TABLE: Overload protection	TING		9	N/A	
Thermocouple locations:		Max. temperature ri measured, Δ T (K)		Max. temperatu limit, Δ T (F	mperature rise lit, Δ T (K)	
	-STING		-STING			
Suppler	mentary information:	TESTING	HUAK	TESTING		

8.22.9		8297			C 25 2			
17	TABLE: Overload	TABLE: Overload protection, resistance method						
CTING	Test voltage (V)	Test voltage (V):						
R	Ambient, t1 (°C)			HU	IX TES	JAK		
4	Ambient, t2 (°C)				~			
Temper	ature of winding:	R1 (Ω)	R2 (Ω)	ΔΤ(Κ)	T (°C)	Max	x. T (°C)	
4	AKTESTING	NK TESTING	AKTESTING		STIME	NKTES	War	
Supplen	nentary information:	HU	O HOL	O HOL	0	HUM		

NG

¦К РВ

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	WTES	LUDE	Page 82 of 94	KTEST	Report N	lo.: HK2109 [,]	181137-SF
TING	ESTING OHUM	TING	J 60335-2	-98	TING	-151	NG OHUM
Clause	Requirement + To	est	HUAK !.	Resu	lt - Remark	HUAK !!	Verdict
19	Abnormal operation	ation condition	IS		~		N/A
Operationa	I characteristics		YES/NO	Operatio	onal condition	าร	
Are there e the applian	lectronic circuits ce operation?	s to control	O HUAN !		HUAK	O HUAK	
Are there "	off" or "stand-by	" position?			TESTING		
The uninter appliance r malfunction	nded operation o esults in danger n?	of the rous	AUANTESTING	O HU	NC (	HUAKTESTING	
Sub-claus e	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.11.4.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19.10X	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Supplement	ary information:	aG	-JG		- JG	·	alG.

19.8	TABLE: Abnormal operation, locked rotor/moving parts							
	Test voltage (V)	NAK TESTING			_			
Ambient, t1 (°C):				0.	HUAKTES			
S.	Ambient, t2 (°C)		:	STNG				
Temperat	ture of winding:	R1 (Ω)	R2 (Ω)	ΔΤ(Κ)	T (°C)	Ма	іх. Т (°С)	
STIM	UAKTESI	AKTESTIN	JULAN TES !!		KTESTIN - U	JAK TES !!	w.	
Suppleme	entary information: N/A	0		Om				

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	NK TES	P	age 83 of 94	R R	eport No.: HK2	1091	81137-SF
TING			J 60335-2-98				
Clause	Requirement + Test	HUAKTED	HUAK	Result - Rer	mark		Verdict
Ţ	9	3	2		-		
19.9	TABLE: Abnormal op	peration, rur	ning overload				N/A
1G	Test voltage (V):			SING			
6	Ambient, t1 (°C):			HUAK .	@ [#]	JAK .	
<i></i>	Ambient, t2 (°C)		:				
Temperature of winding: R1 (Ω)			R2 (Ω)	ΔΤ(Κ)	T (°C)	Ма	x. T (°C)
HUAKTE	0	HILL HILL	AKTE	0	HUAKTE		
۲	STING	9		CSTING	w.		
0	to a former of the NUA			.ak			101

Supplementary information: N/A

			All W			
19.13	TABLE: Abnormal operation, temperature rises					N/A
Thermocouple locations:		Max. tem measu	Max. temperature rise measured, Δ T (K)		Max. temperature rise limit, Δ T (K)	
	UAKTESTIN	HUAK TESTIN	- WAK TESTIN	- WAKTEST	- WUAK TE	5/11
Supplemen	tary information	: N/A	0	0		

21.1	TABLE: Impact resistance		AG HUNK TEST	STING P
Impacts p	er surface	Surface tested	Impact energy (Nm)	Comments
:	3	Enclosure	0.5J	No damaged
Supplement	ary informati	on: N/A	NG HUAN	NG MU

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	NTESTI-	Page 84 of 94	Report	No.: HK21097	181137-SR
CTING		J 60335-2-98			NG OHUM
Clause	Requirement + Test	HUAK	Result - Remark	HUAK	Verdict

24.1	TAE	BLE: Components in	nformation				Р
Object / par	t No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Ma cor	rk(s) of formity ¹ )
Plastic enclosure	TING	LG CHEM LTD	LUMID GP2251BFH(# )	V-0, 130°C	J 60335-1 J 60335-2-98	UL and with app	E67171 J tested n pliance
PCB		SHENZHEN KING BROTHER ELECTRONICS TECHNOLOGY CO LTD	KB-07	V-0, 130°C, Min 1.7mm	J 60335-1 J 60335-2-98	UL and with app	E225430 d tested h oliance
Internal wir	e	Xin Sheng Terminal Mfg Ltd	1007	80 °C, 300V~, 20AWG	J 60335-1 J 60335-2-98	UL and with app	E328303 d tested h oliance
Battery	UAKTES	Shenzhen Naite New Energy Technology Co., Ltd.	18650	3.7V, 2000mAh	J 62133-2	PS	Eng

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### Supplementary information:

¹) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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	NK TES.	Page 85 of 94	Report	No.: HK2109181137-SF
TING	ESTING HUM	J 60335-2-98	JA-	3 resting the
Clause	Requirement + Test	HUAK	Result - Remark	Verdict

28.1	TABLE: Thre	eaded part torque test	A TES	P HUNK TE P
Threaded identificat	part tion:	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
External e	nclosure	3.04	IG HUAK I	0.6
Suppleme	ntary information	1: 0 ^{HUM}	9	O HUM

29.1	TABLE: Clearances	-m	3 STING	D HUM	TING	N/A	
S MI (	Overvoltage category		:		UAKTES	HUAK IS	
			Type of ir	nsulation:			
Rated impuls voltage (V):	e Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark	
330	0,2* / 0,5 / 0,8**	MK IN	PHURK I	HUAN		N/A	
500	0,2* / 0,5 / 0,8**					N/A	
800	0,2* / 0,5 / 0,8**		TUG	UAK TEST		N/A	
1 500	0,5 / 0,8** / 1,0***		HUAK TEST	<u>(0)</u>		N/A	
2 500	1,5 / 2,0***			TING		N/A	
4 000	3,0 / 3,5***			HUAKTE		N/A	
6 000	5,5 / 6,0***	AKTESTIN	ULAT TESTA		NK TESTING	N/A	
8 000	8,0 / 8,5***	Ho	·	(0)`	0	N/A	
10 000	11,0 / 11,5***					N/A	

Supplementary information:

*) For tracks on printed circuit boards if pollution degree 1 and 2

**) For pollution degree 3

***) If the construction is affected by wear, distortion, movement of the parts or during assembly

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Clause

Requirement + Test

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Result - Remark

Verdict

θP

29.2 TAE	BLE: Creep	Creepage distances, basic, supplementary and reinforced insulation								N/A	
Working volta (V):	ge	Creepage distance (mm) Pollution degree									
	1		2			3		in	Type o sulatio	of on	Verdict
		Ма	aterial g	roup	Ма	iterial g	roup				
		I	П	IIIa/IIIb	I	Ш	IIIa/IIIb*	<b>B</b> **	S**	R**	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9				N/A
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		1		N/A
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8				N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4				N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	_			₀∿ [©] N/A
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	_		IUAK IL	N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0				N/A
250	0,56	1,25	1,8	2,5	<b>3</b> ,2	3,6	4,0				N/A
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0				N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	6			N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	_			N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	_		AKTES	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0				N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	_			N/A
500	<u>, 100</u> 2,6	5,0	7,2	10,0	12,6	14,2	16,0	_		TES	[™] N/A
>630 and ≤80	0 1,8	3,2	4,5	6,3	8,0	9,0	10,0				N/A
>630 and ≤80	0 1,8	3,2	4,5	6,3	8,0	9,0	10,0				N/A
>630 and ≤80	0 3,6	6,4	9,0	12,6	£16,0	18,0	20,0	_		STING	N/A
>800 and ≤100	00 2,4	4,0	5,6	8,0	10,0	11,0	12,5	8			N/A
>800 and ≤100	00 2,4	4,0	5,6	8,0	10,0	11,0	12,5				N/A
>800 and ≤100	00 4,8	8,0	11,2	16,0	20,0	22,0	25,0	_		STA	N/A
>1000 and ≤12	50 3,2	5,0	7,1	10,0	12,5	14,0	16,0	(ED.			N/A
>1000 and ≤12	50 3,2	5,0	7,1	10,0	12,5	14,0	16,0		<i>S</i>		N/A
>1000 and ≤12	50 6,4	10,0	14,2	20,0	25,0	28,0	32,0				N/A
>1250 and ≤16	00 4,2	6,3	9,0	12,5	16,0	18,0	20,0	TUNO I			N/A
>1250 and ≤16	00 4,2	6,3	9,0	12,5	16,0	18,0	20,0		0		N/A
>1250 and ≤16	00 8,4	12,6	18,0	25,0	32,0	36,0	40,0				N/A

## TRF No. IEC60335_2_98G

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		and T	ESTIN		Page 8	7 of 94	NAK TE	Re	port N	o.: HK	21091	81137-SF
TING	TESTING	J 60335-2-98								G OHU		
Clause	Requirer	ment +	Test	UAKTED	HUAK		Re	sult - Rem	ark	(C) H	JAK I	Verdict
			Ŵ					Ś		~		
29.1	TABLE:	Cleara	ances		Γ							N/A
>1600 and	l ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	ING			∾ [©] N/A
>1600 and	l ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		6	—	N/A
>1600 and	l ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0				N/A
>2000 and	l ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0				N/A
>2000 and	l ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—	HUAKT	—	N/A
>2000 and	l ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0				N/A
>2500 and	l ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	G			N/A
>2500 and	l ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		H	—	N/A
>2500 and	l ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0				N/A
>3200 and	l ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0			<b>—</b>	N/A
[©] >3200 and	l ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0				[№] N/A
>3200 and	l ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0			10kg	N/A
>4000 and	l ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0				N/A
>4000 and	l ≤5000	16,0	20,0	28,0	40,0	[©] 50,0	56,0	63,0		4	—	N/A
>4000 and	l ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0				N/A
>5000 and	l ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0				N/A
>5000 and	l ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0				N/A
>5000 and	l ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0			PIK .	N/A
>6300 and	l ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and	l ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0				N/A
>6300 and	l ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0			JAK TES	N/A
>8000 and	≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0				N/A
>8000 and	≤10000	32,0	40,0	[©] 56,0	80,0	100,0	110,0	125,0				N/A
>8000 and	≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0			STING	N/A
>10000 and	l ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	0			N/A
>10000 and	l ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0				N/A
>10000 and	l ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0			K TESTIN	N/A

NG

IK Per

Supplementary information:

*^{*} Material group IIIb is allowed if the working voltage does not exceed 50 V
**⁹ B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation

#### TRF No. IEC60335_2_98G

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Clause

Requirement + Test

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Result - Remark

Verdict

29.2 TAE	9.2 TABLE: Creepage distances, functional insulation								N/A
Working voltag (V):	je		Cre Pc	epage di (mm) ollution de	stance egree			Verdict / Remark	
	1		2			3			
		Ма	aterial g	roup	Ма	terial g	roup		
		I	Ш	II IIIa/IIIb	I	Ш	IIIa/IIIb*		
≤10	0,08	0,4	0,4	0,4	1,0	1,0	⁶⁶⁰ 1,0	N/A	
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A	NG OH
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A	
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	N/A	
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A	
500	^{,,,,,,,} 1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A	STING
>630 and ≤800	) 1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A	
>800 and ≤100	0 2,4	4,0	₆ 5,6	8,0	10,0	11,0	12,5	N/A	
>1000 and ≤12	50 3,2	5,0	7,1	10,0	ି 12,5	14,0	16,0	N/A	
>1250 and ≤160	00 4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A	
>1600 and ≤200	00 5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A	
>2000 and ≤250	00 7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A	NG OH
>2500 and ≤320	00 10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A	
>3200 and ≤400	00 12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A	
>4000 and ≤50	00 16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A	
>5000 and ≤630	00 20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A	STING
>6300 and ≤800	00 25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A	
>8000 and ≤100	00 32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A	
>10000 and ≤12	500 40,0	50,0	71,0	100,0	[©] 125,0	140,0	160,0	N/A	

30.1	TABLE: Ball P	TABLE: Ball Pressure Test of Thermoplastics						
Allowed	impression diame	eter (mm):	2mm	JAK TES HUAK I				
Object/ Part No./ Material M		Manufacturer/ trademark	Test temperature (°C)	Impression diam	neter (mm)			
PCB	STING	Refer to table 24.1	125 from 125	1.22	STING			
Plastic e	nclosure	Refer to table 24.1	75	0.94				
Supplem	entary information:							

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TING	ESTING HUM	J 60335-2-98	UM	TESTING O HUM
Clause	Requirement + Test	HUAK	Result - Remark	Verdict

ි 30.2	TAI	BLE: Res	istance to	o heat and	I fire - Glow	wire tests	5	STING P	
Object/	Manufacture	Glow wire test (GWT); (°C)							
Part No./ Material	r/	550	650 75		50		Verdict		
	trademark	550	te	ti	te	ti	850		
РСВ	See table 24.1		O HUA	TED	0	0	HUAK TES	Pass	
Plastic enclosure	Refer to table 24.1	0	 10		HUAKTEST			Pass	
Object/ Part No./	Manufacture r/	Glow	v-wire fla (GW	mmability /FI), °C	oility index GW ignition temp. (GWIT), °C			Verdict	
Material	trademark	550	650	750	850	675	775		
<u>в</u> —	miG		ю —		3			MG	
- HUAN		HUNK TES		HUAN TES		HUAKTES		AKTES	
The test spec	imen passed the	e glow wir	e test (GV	VT) with n	o ignition [(t	e – ti) ≤ 2s]	(Yes/No):	Yes	
If no, then sur	rounding parts p	assed the	e needle-f	flame test	of annex E (	(Yes/No)	:	No	
The test spec with the glow-	imen passed the wire (Yes/No)? .	e test by v	irtue of m	ost of the	flaming mat	erial being	withdrawn 	No	
Ignition of the	specified layer	placed un	derneath	the test sp	ecimen (Ye	s/No)	:	No	
Supplementar	ry information:		STING	TESTING	O HUM	20	TING	TESTING HUM	

- 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF - The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances

30.2/30.2.TABLE: Needle- flame te4Object/ Part No./ MaterialManufacturer/ trademark		: Needle- flame test (	NFT)	HUNKTESTING HUNKTES		Р
		Manufacturer/ trademark	Duration of application of test flame (ta); (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdic t
PCB		Refer to table 24.1	30s	No	Os Os	Pass

Supplementary information:

- NFT not relevant (or applicable) for Parts of material classified as V-0 or V-1 NFT not relevant (or applicable) for Base material of PCBs classified as V-0 or if relevant VTM-0

#### TRF No. IEC60335_2_98G

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#### Appendix 1: Photo document



Photo 1: Overall view



Photo 2: Overall view

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Photo 3: Overall view



Photo 4: Overall view

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HK Beer



Photo 5: Overall view



Photo 6: Internal view

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70 60 50 40 30 50 10100 90 80 10 60 50 40 30

Photo 8: Battery view

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## **60 80 20 90 20 40 30 50 10 100 60 80 20 90 40** Photo 9: PCB view



mm 01 02 06 04 03 09 07 08 06 00101 02 06 04 0

Photo 10: PCB view

End of report

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# 检测报告











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- 二、除全文复制外,报告未经本机构书面批准不得部分复制。
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- 四、报告无批准人签字无效。
- 五、报告涂改无效。
- 六、对报告若有异议,应于收到报告之日起五个工作日内以书面方式向本单位提出,逾 期不予受理。
- 七、报告结果仅适用于收到的样品。
- 八、对委托送样的样品及信息的真实性,由委托方负责。

机构名称:深圳华通威国际检验有限公司

- 地 址:广东省深圳市南山区高新技术产业园科技南12路华通威大厦
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- 邮 箱: cs@szhtw.com.cn
- 网 址: http://www.szhtw.com.cn

邮政编码: 518000





检测信	言息:	
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委托单位/委托人	深圳市汇奇美科技有限公司				
委托单位/委托人地址	深圳市龙岗区龙城街道盛平社区龙平西路4号中天信A厂区厂房 301-401				
样品名称	加湿器	样品数量	1		
款号/型号	HM01	商标品牌	/		
样品来源	送样	样品状态	完好		
样品送达日期	2021. 09. 24	检测周期	2021. 09. 24–09. 27		
检测类别	委托检测	检测环境	按标准要求		
检测地址	广东省深圳市公明田寮根玉	路宏发高新产业园	9栋一楼		
检测依据	GB 4706.1-2005 家用和类似 GB 4706.48-2009 家用和类	用途电器的安全 似用途电器的安全	第1部分:通用要求 加湿器的特殊要求		
检测项目	第8章:对触及带电部件的 第13章:工作温度下的泄漏 第21章:机械强度	防护 弱电流和电气强度			
检测结论	所检项目合格学校验检测专用	20日間公司 1000000000000000000000000000000000000			
编制	审核		北 准		
王泽碑	余耀		43 PA		





## 附加说明:

说明	/
备注:	
1. 见附表: 指本报告的	附加表格。
2. 可能的试验情况判定	:
不适用:试验情况不适用	用本试验产品或不进行该项试验。
合格:试验样品满足要求	κ.
不合格:试验样品不满风	已要求。
	CIC





检验结果:

# GB 4706.1-2005 家用和类似用途电器的安全 第1部分:通用要求 GB 4706.48-2009 家用和类似用途电器的安全 加湿器的特殊要求

序号	试验项目及试验要求	试验结果-说 明	判定
8	对触及带电部件的防护		
8. 1	应有足够的防止意外触及带电部件的防护		合格
8. 1. 1	所有状态,包括取下可拆卸部件后的状态		不适用
	装取灯泡期间,应有对触及带电部件的防护		不适用
	用 IEC61032 中的探棒 B 进行检查, 不触及带电部件		不适用
8. 1. 2	用 IEC61032 中的探棒 13 检查 0 类器具、II 类器 具或 II 类结构上的孔隙,不触及带电部件		不适用
	用探棒 13 检查有绝缘涂层的接地金属外壳上的 孔隙,不触及带电部件		不适用
8. 1. 3	对    类器具以外的其它器具用 IEC 61032 的 41 号试验探棒进行检查:应不能触及可见灼热电热元件 的带电部件		不适用
8. 1. 4	若易触及部件为下述情况可认为不带电:		合格
	——由交流安全特低电压供电:电压峰值≤42.4V		不适用
	——由直流安全特低电压供电:电压≤42.4V		合格
	——或通过保护阻抗与带电部件隔开,直流电流 ≪2mA		不适用
	——或通过保护阻抗与带电部件隔开,交流峰值 电流≤0.7mA		不适用
	——42. 4V<峰值电压≤450V, 其电容量≤0. 1 μ F		不适用
	——450V<峰值电压≤15kV,其放电量≤45μC		不适用
8. 1. 5	器具在就位或组装之前,带电部件至少应由基本 绝缘保护:		不适用
	——嵌装式器具		不适用
	——固定式器具		不适用
	——分离组件形式交付的器具		不适用





序号	试验项目及试验要求	试验结果-说 明	判定
8.2	11 类器具和 11 类结构,应对基本绝缘以及仅由 基本绝缘与带电部件隔开的金属部件有足够的防止意 外接触的保护		不适用
	只允许触及由双重绝缘或加强绝缘与带电部件隔 开的部件		不适用
13	工作温度下的泄漏电流和电气强度		
13. 1	工作温度下,器具的泄漏电流不应过大,并且有 足够的电气强度		合格
	电热器具以1.15倍额定输入功率工作		不适用
	电动器具和组合型器具以1.06倍额定电压供电		合格
	在试验前断开保护阻抗和无线电干扰滤波器		不适用
	电极式加湿器在 1.06 倍额定电压下工作 (GB4706.48-2009)		不适用
13. 2	泄漏电流通过1EC60990中图4所描述电路进行测量		合格
	泄漏电流的测量	见附表	合格
	对电极式加湿器测量放置在蒸汽中距出口 10mm 处的金属网与易触及部件(包括金属箔)之间的泄漏 电流(GB4706.48-2009)		不适用
	泄漏电流不应超过 0.25mA(GB4706.48-2009)		不适用
13. 3	断开器具电源后立即进行电气强度试验		合格
	在试验期间不应出现击穿	见附表	合格
21	机械强度		
21. 1	器具有足够的机械强度,其结构应经受正常使用 中可能出现的野蛮搬运		合格
	对器具外壳各部分以 0.5J 的冲击能量打击三次 后,应无损坏		合格
	必要时,加强绝缘或附加绝缘要经受16.3的电气 强度试验		不适用
	必要时,在新样品的同一部位反复打击,三次为 一组		不适用
21.2	固体绝缘的易触及部件,应有足够的强度防止锋 利工具的刺穿		不适用
			5/8页





序号	试验项目及试验要求	试验结果-说 明	判定
	按要求对绝缘进行试验,除非		不适用
	附加绝缘厚度不小于 1mm,加强绝缘厚度不少于 2mm		不适用







附表:

13. 2	表格:工作温度下的泄漏电流测量		合格
	电热器具: 1.15 倍额定功率 (W)······		
	电动器具和联合型器具: 1.06 倍额定电压 (V)	5.3 V	
	测量部位	实测值(mA)	限值(mA)
	器具输入端与易触及部件之间	0.005	0. 5

13. 3	13.3 表格:工作温度下的电气强度测试			
	试验电压施加部位	试验电压(V)	是否击穿	
	器具输入端与易触及部件之间	500	否	

C





样品照片







1: 05 0Ct. 22, 2021 AUTHENTICATORS WITH FULL

HK2109183580-1ER

**Certification Manager** 



Report No.

**Registration Date** 

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#### o VERTICATION AUTHENT TO VERTICATION AUTHENT TO VERTICATION AUTHENT TO VERTICATION AUTHENT TO VERTICATION AUTH TO VERTICATION AU ATTON O VERTICATION A ATTON O VERTICATION

#### Shenzhen HUAK Testing Technology Co., Ltd.

Add.:1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China Tel.:+86-755-2302 9901 Http:// www.cer-mark.com Postcode:518103 E-mail: service@cer-mark.com



# CE-EMC TEST REPORT

Prepared for :

Shenzhen Hui Qi Mei Technology Co., Ltd.

301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China

Product:	Humidifier
Trade Name:	N/A
Model Name:	HM01
Date of Test:	Oct. 15, 2021 - Oct. 22, 202
Date of Report:	Oct. 22, 2021
Report Number:	HK2109183580-1ER

#### Prepared By :

Shenzhen HUAK Testing Technology Co., Ltd. 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China TEL: +86-755-2302 9901 FAX: +86-755-2302 9901 E-mail: service@cer-mark.com http://www.cer-mark.com

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Report No.: HK2109183580-1ER

## TEST REPORT VERIFICATION

Applicant		Shenzhen Hui Qi Mei Technology Co., Ltd.
Address	:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
Manufacturer	:	Shenzhen Hui Qi Mei Technology Co., Ltd.
Address	0	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
EUT Description	HUAK	Humidifier
(A) Model No.	:	HM01
(B) Series Model	:	N/A
(C) Power Supply	:	DC5V From Type-C or DC3.7V From Battery

#### Standards..... EN IEC 55014-1:2021 EN IEC 55014-2:2021

This device described above has been tested by HUAK, and the test results show that the equipment under test (EUT) is in compliance with the 2014/30/EU requirements. And it is applicable only to the tested sample identified in the report.

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Test Result..... Pass

Date of Test:

Oct. 15, 2021 - Oct. 22, 2021

Prepared by:

Reviewed by:

Kevin

**Project Engineer** 

**Project Supervisor** 

hou son 1

Approved by:

**Technical Director** 

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Revision	De	escription	Issued Data	Remar	k
Revision 1.0	Initial Tes	t Report Release	2021/10/22	Jason Zh	nou
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## ** Modified History **

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## 1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
	Conducted Emission	Class B	N/A	
EN 120 55014-1	Radiated Emission	Class B	PASS	No
EN IEC 61000-3-2	Harmonic Current Emission	Class A	N/A	
EN 61000-3-3	Voltage Fluctuations & Flicker	0	N/A	TESTING
	EMC Immunity			
Section EN IEC 55014-2	Test Item	Performance Criteria	Judgment	Remark
EN 61000-4-2	Electrostatic Discharge	В	PASS	Mr. C.
EN IEC 61000-4-3	RF electromagnetic field	A	PASS	.6
EN 61000-4-4	Fast transients	В	N/A	
EN 61000-4-5	Surges	В	N/A	
EN 61000-4-6	Injected Current	A	N/A	TESTING C
EN IEC 61000-4-11	Volt. Interruptions Volt. Dips	C / C / C NOTE (3)	N/A	

## NOTE:

- (1)" N/A" denotes test is not applicable in this Test Report
- (2) Voltage dip: 0% reduction Performance Criteria C
- Voltage dip: 30% reduction Performance Criteria **C** Voltage dip: 60% reduction – Performance Criteria **C**
- (3) For client's request and manual description, the test will not be executed.

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## 1.1 TEST FACILITY

Shenzhen HUAK Testing Technology Co., Ltd. Address: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization : A2LA Accreditation Code is 4781.01. FCC Designation Number is CN1229. Canada IC CAB identifier is CN0045. CNAS Registration Number is L9589. 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y\pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of  $\ k=2$ , providing a level of confidence of approximately 95 %  $^\circ$ 

## A. Conducted Measurement :

Measurement Frequency Range	Uncertainty	NOTE
150 KHz ~ 30MHz	±2.71dB	

## B. Radiated Measurement :

	and UV		_
Measurement Frequency Range	Uncertainty	NOTE	
30MHz ~ 1000MHz	±3.90dB	HUAKTES	
			_

## C. Disturbance Power Measurement:

Measuren	nent Frequency Range	Uncertainty	NOTE
۵۵ 🖉	MHz ~300MHz	±3.35dB	
	pr	125	125

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HS ⊢F

## 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Humidifier	TESTING
Model Name	HM01	HUNN WKTESTING
Series Model	N/A	of Other
Model Difference	N/A	- WAKTESTIN
Product Description	The EUT is a Humidifier. Operating frequency: Connecting I/O port: Based on the application, exhibited in User's Manua ITE/Computing Device. M specification, please refer	N/A N/A features, or specification al, the EUT is considered as an lore details of EUT technical to the User's Manual.
Power Source	DC Voltage	HUNKTES
Power Rating	DC5V From Type-C or DC	3.7V From Battery

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## 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Charging and Working
Mode 2	Charging
Mode 3	Working

For Conducted Test			
Final Test Mode	Description		
Mode 1	N/A	<b>W</b>	

For Radiated Test		
Final Test Mode	Description	
Mode 1	Charging and Working	
Mode 2	Charging	
Mode 3 Working		
MINGE MINGE		

For EMS Test		
Final Test Mode	Description	
Mode 1	Charging and Working	
Mode 2	Charging	
Mode 3	Working	

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## 2.3 DESCRIPTION OF TEST SETUP

## Mode 1:





## 2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Humidifier	N/A	HM01	N/A	EUT
E-2	Adapter	HUAWEI	HW-051000CHQ	N/A	TING
	HUAKTES	0	HUAKTES	HUP HUP	IK PED
		TESTING		ESTING	
	NG STING ON	Alt.	TING O HUAR	ang	STING
UAKTES	HUAKTE	HUAKTEST	HUAKTE	HUNKTESI	AUAKTES
				9	8
TESTING	AK TESTING	W TESTING	WK TESTING	NK TESTING	NK TESTING
	O Hor	O HO.	O HO.	O HO.	D HO.

Item	Shielded Type	Ferrite Core	Length	Note
	HUAKTE	0	HUAKTE	HUAKTE
		resting		estine
	IG THE MU	^{27 - J} K	TING HUA	NG THE
NAKTEST	HUAKTES	- WUAKTESTIN	HUAKTES	- WARTESTIC
				0.
TESTING	TESTING	TESTING	TESTING	TESTING
	C HUAN	O HUAN	C HUAN	O HUAT

## Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in  $\[$ Length  $\]$  column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".

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## 2.5 MEASUREMENT INSTRUMENTS LIST

2	2.5.1	CONDUCTED TEST	SITE	Sec. 1.		
	Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
	1	LISN	R&S	ENV216	HKE-002	Dec. 09, 2021
	2	LISN	R&S	ENV216	HKE-059	Dec. 09, 2021
	3	EMI Test Receiver	R&S	ESR-7	HKE-010	Dec. 09, 2021

## 2.5.2 RADIATED TEST SITE

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Broadband antenna	Schwarzbeck	VULB 9163	HKE-012	Dec. 09, 2021
2	Horn antenna	Schwarzbeck	9120D	HKE-013	Dec. 09, 2021
3	EMI Test Receiver	R&S	ESR-7	HKE-010	Dec. 09, 2021
4	Spectrum Analyzer	Agilent	N9020A	HKE-048	Dec. 09, 2021
5	Amplifier	EMCI	EMC051845 SE	HKE-015	Dec. 09, 2021
6	Amplifier	Agilent	83051A	HKE-016	Dec. 09, 2021

## 2.5.3 Disturbance Power TEST SITE

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESR-7	HKE-010	Dec. 09, 2021
2	6DB Attenuator	Pasternack	6db	HKE-007	Dec. 09, 2021
3	Electromagnetic absorbing clamp	R&S	MDS 21	HKE-008	Dec. 09, 2021

## 2.5.4 HARMONICS AND FILCK

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
AKTED	Harmonic flicker tester	California Instruments	AC2000A	HKE-037	Dec. 09, 2021

#### 2.5.5 ESD

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	ESD device	Schloder	SESD 216	HKE-023	Dec. 09, 2021

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## 2.5.6 RS

=.0.0					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power amplifier	Vectawave	100W1000M7	HKE-142	Dec. 09, 2021
2	Power amplifier	Vectawave	MPA-1000-600 0-100	HKE-143	Dec. 09, 2021
3	Power Meter	KEYSIGHT	E4419B	HKE-144	Dec. 09, 2021
4	Signal Generator	Agilent	N5181A	HKE-145	Dec. 09, 2021
5	Field intensity probe	PMM	EP601	HKE-146	Dec. 09, 2021
6	High gain antenna	Schwarzbeck	STPL9149	HKE-147	Dec. 09, 2021

## 2.5.7 SURGE, EFT/BURST, VOLTAGE INTERRUPTION/DIPS

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
MUAKTE	Full-featured immunity tester	HTEC	HV1P16T	HKE-017	Dec. 09, 2021

## 2.5.8 INJECTION CURRENT

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Magnetic clamp	EMCL	EMCL-20	HKE-032	Dec. 09, 2021
2	Integrated Conduction Sensitivity Test System	Schloder	CDG6000	HKE-033	Dec. 09, 2021

## 2.5.8 MF

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
AUAT TES	Power frequency induction coil	HTEC Instruments Ltd.	HPFMF	HKE-049	Dec. 09, 2021

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## **3. EMC EMISSION TEST**

**HUAK TESTING** 

## 3.1 CONDUCTED EMISSION MEASUREMENT

## 3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

		At mains terminals		At load terminals and additional terminals	
	Frequency Range				
	(MHz)	Quasi-peak	Average	Quasi-peak	Average
		(dBuV)	(dBuV)	(dBuV)	(dBuV)
Ī	0.15 -0.5	66 - 56 *	56 - 46 *	80.00	70.00
Ī	0.50 -5.0	56.00	46.00	74.00	64.00
1	5.0 -30.0	60.00	50.00	74.00	64.00

## 3.1.2 MAINS TERMINALS OF TOOLS

	-ALC			AND		-AP
Frequency Range	Rated motor power not exceeding 700W		Rated motor power above 700W and not exceeding1 000 W		Rated motor power above 1 000 W	
(MHz)	dB (uV)	dB (uV)	dB (uV)	dB (uV)	dB (uV)	dB (uV)
	Quasi-peak	Average**	Quasi-peak	Average**	Quasi-peak	Average**
0.15 -0.5	66.0 to 59.0*	59.0 to 49.0*	70.0 to 63.0*	63.0 to 53.0*	76.0 to 69.0*	69.0 to 59.0*
0.50 -5.0	59.0	49.0	63.0	53.0	69.0	59.0
5.0 -30.0	64.0	54.0	68.0	58.0	74.0	64.0
100 C						

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) "**" If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out.

## The following table is the setting of the receiver

(FS)
Setting
10 dB
0.15 MHz
30 MHz
9 kHz

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#### 3.1.3 TEST PROCEDURE

**HUAK TESTING** 

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

## 3.1.4 TEST SETUP



## Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

## 3.1.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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## 3.1.6 TEST RESULTS

EUT :	Humidifier	Model Name. :	HM01
Temperature :	N/A	Relative Humidity :	N/A
Pressure :	N/A	Test Date :	N/A
Test Mode :	N/A	Phase :	N/A
Test Voltage :	N/A		- NG

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 3.2 RADIATED EMISSION MEASUREMENT

## 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

(Below 1000MHz)

	At 10m	At 3m		
	dBuV/m	dBuV/m		
30 – 230	30	40		
230 – 1000	aux restruct 37	A7		

3.2.2 LIMITS OF DISTURBANCE POWER MEASUREMENT (Below 1000MHz)

		2010		200				
		Household and similar appliances		Tools				
	Frequen cy Range			Rated motor power not exceeding 700 W		Rated motor power above 700 W and not exceeding 1 000 W		
1	(MHz)	dB (pW) Quasi- peak	dB (pW) Averag*	dB (pW) Quasi-p eak	dB (pW) Averag*	dB (pW) Quasi-p eak	dB (pW) Averag*	
	30-300	44-55	35-45	44-55	35-45	49-59	39-49	

Notes:

- (1) The limit for radiated test was performed according to as following: CISPR 14.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

## 3.2.3 TEST PROCEDURE

- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

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ALION

## 3.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



## 3.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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## 3.2.6 TEST RESULTS(30MHz-1000MHz)

#### Note:

All the test modes completed for test. only the worst result of was reported. as below:

EUT :	Humidifier		Model Name :	HM01	HUAKTL
Temperature :	<b>24</b> °C	0	Relative Humidity :	54%	w.
Pressure :	1010 hPa		Test Date :	2021-10-20	
Test Mode :	Mode 3		Polarization :	Horizontal	TESTING
Test Power :	DC3.7V From Battery	HUAT		<b>N</b> ¹	UAR



#### QP Detector

Suspected List

Suspe	cted List								
NO	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Polority
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Folanty
1	43.5936	-13.90	28.52	14.62	40.00	25.38	100	342	Horizontal
2	75.6356	-18.68	34.68	16.00	40.00	24.00	100	37	Horizontal
3	106.7067	-15.42	34.49	19.07	40.00	20.93	100	167	Horizontal
4	163.9940	-17.85	39.50	21.65	40.00	18.35	100	213	Horizontal
5	200.8909	-15.04	46.85	31.81	40.00	8.19	100	167	Horizontal
6	271.7718	-13.59	36.95	23.36	47.00	23.64	100	217	Horizontal

#### Final Data List

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;

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#### Report No.: HK2109183580-1ER

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	A CALL ADDING N	AGA COMPANY A	
EUT :	Humidifier	Model Name :	HM01
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-10-20
Test Mode :	Mode 3	Polarization :	Vertical
Test Power :	DC3.7V From Battery	TESTING	TESTING



QP Detector

Suspected List

Suspe	cted List								
NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Polarity
	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	-
1	44.5646	-13.73	36.37	22.64	40.00	17.36	100	284	Vertical
2	54.2743	-14.30	36.55	22.25	40.00	17.75	100	288	Vertical
3	72.7227	-18.16	36.63	18.47	40.00	21.53	100	270	Vertical
4	125.1552	-17.86	34.62	16.76	40.00	23.24	100	101	Vertical
5	161.0811	-18.12	36.18	18.06	40.00	21.94	100	101	Vertical
6	197.9780	-15.25	34.61	19.36	40.00	20.64	100	92	Vertical

Final Data List

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;

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## 3.2.7 TEST RESULTS(30MHz ~300MHz)

EUT :	Humidifier	Model Name :	HM01
Temperature :	<b>24</b> ℃	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-10-20
Test Mode :	Mode 1	0  (	0
Test Power :	DC5V From Type-C		TING

EN 55014 POWER



Level[dBpW]

# Suspected List

AV Detector

QP Detector

NO.	Freq. [MHz]	Level[d Bpw]	Factor [dB]	Reading [dBpW]	Limit [dBpw]	Margin [dB]	Detector	Туре
1	36.7568	32.62	7.61	25.01	45.88	13.26	PK	Clamp
2	78.1081	39.61	6.07	33.54	49.16	9.55	PK	Clamp
3	88.6486	41.06	4.96	36.10	49.71	8.65	PK	Clamp
4	109.1892	36.18	5.51	30.67	50.61	14.43	PK	Clamp
5	131.3514	33.20	5.12	28.08	51.41	18.21	PK	Clamp
6	182.7027	33.46	2.66	30.80	52.85	19.39	PK	Clamp

Remark: Margin = Limit – Level Correction factor = Cable lose + insertion loss Level=Test receiver reading + correction factor

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# 3.3 HARMONICS CURRENT

# 3.3.1 LIMITS OF HARMONICS CURRENT

	IEC 555-2					
	Table -	1		Table -	· II	
Equipment	Harmonic	Max. Permissible	Equipment	Harmonic	Max. Permissible	
Category	Order	Harmonic Current	Category	Order	Harmonic Current	
	n	(in Ampers)		n	(in Ampers)	
	Odd	Harmonics		Odd	Harmonics	
	3	2.30		3	0.80	
	5	1.14		5	0.60	
	7	0.77		7	0.45	
Non	9	0.40	TV	9	0.30	
Portable	11	0.33	Receivers	11	0.17	
Tools	13	0.21		13	0.12	
or	15≤n≤39	0.15 · 15/n		15≤n≤39	0.10 · 15/n	
TV	Even	Harmonics		Even	Harmonics	
Receivers	2	1.08		2	0.30	
	4	0.43		4	0.15	
	8	0.30				
	8≤n≤40	0.23 · 8/n		DC	0.05	

	EN 61000-3-2/IEC 61000-3-2					
Equipment	Max. Permissible	Equipment	Harmonic	Max. Per	missible	
Category	Harmonic Current	Category	Order	Harmonic	Current	
	(in Ampers)		n	(in A)	(mA/w)	
Class A	Same as Limits Specified in 4-2.1, Table - I, but only odd harmonics required	Class D	3 5 7 9 11 13≤n≤39 only o	2.30 1.14 0.77 0.40 0.33 see Table I dd harmonics r	3.4 1.9 1.0 0.5 0.35 3.85/n equired	

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#### 3.3.1.1TEST PROCEDURE

a. The EUT was placed on the top of a wooden table 0.8 meters above the ground and operated to produce the maximum harmonic components under normal operating conditions.b. The classification of EUT is according to section 5 of EN 61000-3-2. The EUT is classified as follows:

Class A: Balanced three-phase equipment, Household appliances excluding equipment as Class D, Tools excluding portable tools, Dimmers for incandescent lamps, audio equipment, equipment not specified in one of the three other classes.

Class B: Portable tools. Portable tools.; Arc welding equipment which is not professional equipment.

Class C: Lighting equipment.

Class D: Equipment having a specified power less than or equal to600 W of the following types: Personal computers and personal computer monitors and television receivers.

c. The correspondent test program of test instrument to measure the current harmonics emanated from EUT is chosen. The measure time shall be not less than the time necessary for the EUT to be exercised.

#### 3.3.1.2 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

#### 3.3.1.3 TEST SETUP



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# 3.3.2 TEST RESULTS

Month 1	ATTLE VV			
EUT :	Humidifier	Model Name :	HM01	I A A A A A A A A A A A A A A A A A A A
Temperature :	N/A	Relative Humidity :	N/A	
Pressure :	N/A	Test Date :	N/A	TING
Test Mode :	N/A	WAK TES	HUAK TES.	HUAK TES
Test Power :	N/A	0		

Note:

1) N/A - denotes test is not applicable in this test report

2) There was not any unintentional transmission in standby mode

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## 3.4 VOLTAGE FLUCTUATION AND FLICKERS

## 3.4.1 LIMITS OF VOLTAGE FLUCTUATION AND FLICKERS

Tosts	Li	mits	Descriptions	
lesis	IEC555-3	IEC/EN 61000-3-3	Descriptions	
Pst	≤ 1.0, Tp= 10 min.	≤ 1.0, Tp= 10 min.	Short Term Flicker Indicator	
Plt	N/A	≤ 0.65, Tp=2 hr.	Long Term Flicker Indicator	
dc	≤ <b>3</b> %	≤ <b>3.3%</b>	Relative Steady-State ∨-Chang	
dmax	≤4%	$\leq 4\%$	Maximum Relative ∨-change	
d (t)	N/A	$\leq 3.3\%$ for $> 500~ms$	Relative V-change characteristic	

#### 3.4.1.1TEST PROCEDURE

#### a. Harmonic Current Test:

Test was performed according to the procedures specified in Clause 5.0 of IEC555-2 and/or Sub-clause 6.2 of IEC/EN 61000-3-2 depend on which standard adopted for compliance measurement.

b. Fluctuation and Flickers Test:

Tests was performed according to the Test Conditions/Assessment of Voltage Fluctuations specified in Clause 5.0/6.0 of IEC555-3 and/or Clause 6.0/4.0 of IEC/EN 61000-3-3 depend on which standard adopted for compliance measurement.

c. All types of harmonic current and/or voltage fluctuation in this report are assessed by direct measurement using flicker-meter.

## 3.4.1.2 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

## 3.4.1.3 TEST SETUP



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HS ⊢F

3.4.2 TEST RESULTS

EUT :	Humidifier	HUAKIL	Model Name :	HM01	HUAN
Temperature :	N/A	w v	Relative Humidity :	N/A	
Pressure :	N/A		Test Date :	N/A	
Test Mode :	N/A	STING	STING	STING	STING
Test Power :	N/A	HUAKTL	HUAKTL	HUAKTL	HUAKIL

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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# 4. EMC IMMUNITY TEST

## 4.1 STANDARD COMPLIANCE/SERVRITY LEVEL/CRITERIA

Tests Standard No.	TEST SPECIFICATION	Test Mode Test Ports	Perform. Criteria
1. ESD	8KV air discharge 4KV contact discharge	Direct Mode	B HUAKT
1EC/EN 01000-4-2	4KV HCP discharge 4KV VCP discharge	Indirect Mode	В
2. RS IEC/EN 61000-4-3	80 MHz to 1000 MHz, 80%, AM modulated	Enclosure	A
3 FFT/Burst	5/50ns Tr/Th 5KHz Repetition Freq.	Power Supply Port	В
IEC/EN 61000-4-4	5/50ns Tr/Th 5KHz Repetition Freq.	CTL/Signal Data Line Port	BHUAK TES
4. Surges	1.2/50(8/20) Tr/Th us	L-N	в
IEC/EN 61000-4-5	1.2/50(8/20) Tr/Th us	L-PE	BHUAKT
	0.15 MHz to 80 MHz, 1000Hz 80%, AM Modulated 150 $\Omega$ source impedance	CTL/Signal Port	A HAN TESTING
5 Injected Current IEC/EN 61000-4-6	0.15 MHz to 80 MHz, 1000Hz 80%, AM Modulated 150Ω source impedance	AC Power Port	A A
	0.15 MHz to 80 MHz, 1000Hz 80%, AM Modulated 150Ω source impedance	DC Power Port	A
6. Volt. Interruptions Volt. Dips IEC/EN 61000-4-11	Voltage dip 0% Voltage dip 30% Voltage dip 60%	AC Power Port	C C C

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## 4.2 GENERAL PERFORMANCE CRITERIA

According to EN IEC 55014-2 standard, the general performance criteria as following:

Criterion A	The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
Criterion B	After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test.
Criterion C	Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

## 4.3 GENERAL PERFORMANCE CRITERIA TEST SETUP

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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Report No.: HK2109183580-1ER

## 4.4 ESD TESTING

**HUAK TESTING** 

## 4.4.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-2
Discharge Impedance:	330 ohm / 150 pF
Required Performance	В
Discharge Voltage:	Air Discharge : 2kV/4kV/8kV (Direct)
	Contact Discharge : 2kV/4kV (Direct/Indirect)
Polarity:	Positive & Negative
Number of Discharge:	Air Discharge: min. 20 times at each test point
	Contact Discharge: min. 20 at each test point
Discharge Mode:	Single Discharge
Discharge Period:	1 second minimum

#### 4.4.2 TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT. During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges.

If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions  $0.5m \times 0.5m$ , is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge. Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.

b. Air discharges at insulation surfaces of the EUT.

It was at least ten single discharges with positive and negative at the same selected point.

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FICATION

## 4.4.3 TEST SETUP



#### Note:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC /EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

#### FLOOR-STANDING EQUIPMENT

The equipment under test was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.

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## 4.4.4 TEST RESULTS

EUT:	Humidifier	Model Name :	HM01	
Temperature :	<b>24</b> ℃	Relative Humidity :	45%	
Pressure :	1010 hPa	Test Date :	2021-10-21	STING
Test Mode :	Mode 1	HUAKTL	HUAKTE	HUAKTL
Test Power :	DC5V From Type-C		9	w.

		Air Discharge								Cor	ntact	Disc	harge			
Location	2ŀ	۲V	4	KV	8	<b>&lt;</b> V	12	KV	21	<b>(</b> V	4	<b>&lt;</b> V	6	۲V	8	K٧
	Ρ	Ν	Р	Ν	۶P	Ν	Р	Ν	Р	Ν	Ρ	Ν	P	N	Р	Ν
enclosure				AKTEST					Α	Α	Α	Α				
slot	Α	Α	Α	Α	Α	A	G		ESTING	O m			TING		100	ING (
HCP	JAK				an H	AKTES		HUAK	Α	Α	Α	A	Tes	(A)	NAK	
VCP 🤍					0		0	Ð	Α	Α	А	Α		Ś		
Criteria	В							E	3							
Result		me	à		Α	NG			all	3		A	NG			NG
Judgment	PASS								PA	SS						

Note:

1) +/- denotes the Positive/Negative polarity of the output voltage.

- 2) Test condition:
- Direct / Indirect (HCP/VCP) discharges: Minimum 50 times (Positive/Negative) at each point. Air discharges: Minimum 10 times (Positive/Negative) at each point.
- 3) Test location(s) in which discharge (Air and contact discharge) to be applied illustrated by photos shown in next page(s)
- 4) The Indirect (HCP/VCP) discharges description of test point as following: 1.left side 2.right side 3.front side 4.rear side
- 5) N/A denotes test is not applicable in this test report

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## 4.5 RS TESTING

## 4.5.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-3
Required Performance	A supported the supported to a support
Frequency Range:	80 MHz - 1000 MHz, 1400 -2000MHz, 2000-2700MHz
Field Strength:	3 V/m, 1V/m
Modulation:	1kHz Sine Wave, 80%, AM Modulation
Frequency Step:	1 % of fundamental
Polarity of Antenna:	Horizontal and Vertical
Test Distance:	3 m 🔊 🗥 🔊 👘 👘
Antenna Height:	1.5 m
Dwell Time:	at least 3 seconds

## 4.5.2 TEST PROCEDURE

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters. The other condition as following manner:

- a. The frequency range is swept from 80 MHz to 1000 MHz, & 1400MHz 2700MHz with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- b. Sweep Frequency 900 MHz, with the Duty Cycle:1/8 and Modulation: Pulse 217 Hz(if applicable)
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.

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E.

### 4.5.3 TEST SETUP



## Note:

#### TABLE-TOP EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

## FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

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## 4.5.4 TEST RESULTS

EUT :	Humidifier	Model Name :	HM01
Temperature :	<b>24</b> ℃	Relative Humidity :	51%
Pressure :	1010 hPa	Test Date :	2021-10-21
Test Mode :	Mode 1	HUAKTE	HUAKILL
Test Power :	DC5V From Type-C		

Frequency Range	RF Field	R.F.	Azimuth	Perform.	Doculto	ludamont
(MHz)	Position	Field Strength	Azimum	Criteria	Results	Judgment
	HUAKTESTING		Front	TESTING		
TESTING	0	TESTING	TESTING O		TESTING	
AUAK O HUAN	0	3 V/m (rms)	Rear	HUAK	0	
80MHz - 1000MHz	H/V	AM Modulated		Α	Α	PASS
		1000Hz, 80%	Left			
TESTING	3	TESTING	TESTING	TES	MAG	
C HUAN	O HUI	· O ⁺	Right	O HUAN	0	

Note:

- 1) N/A denotes test is not applicable in this test report.
- 2) Criteria A: There was no change operated with initial operating during the test.
- 3) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
- 4) Criteria C: The system shut down during the test.

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## 4.6 EFT/BURST TESTING

## 4.6.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-4
Required Performance	B and the and the same
Test Voltage:	Power Line:1 kV
	Signal/Control Line : 0.5 KV
Polarity:	Positive & Negative
Impulse Frequency:	5 kHz
Impulse Wave shape :	5/50 ns
Burst Duration:	15 ms
Burst Period:	300 ms
Test Duration:	Not less than 1 min.

## 4.6.2 TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.

The other condition as following manner:

- a. The length of power cord between the coupling device and the EUT should not exceed 1 meter.
- b. Both positive and negative polarity discharges were applied.
- c. The duration time of each test sequential was 1 minute

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ALION

#### 4.6.3 TEST SETUP





#### Note:

#### TABLE-TOP EQUIPMENT

The configuration consisted of a wooden table (0.8m high) standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system. A minimum distance of 0.5m was provided between the EUT and the walls of the laboratory or any other metallic structure.

#### FLOOR-STANDING EQUIPMENT

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-4 and its cables, were isolated from the Ground Reference Plane by an insulating support that is 0.1-meter thick. The GRP consisted of a sheet of aluminum (at least 0.25mm thick and 2.5m square) connected to the protective grounding system.

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# 4.6.4 TEST RESULTS

EUT :	Humidifier	Model Name :	HM01
Temperature :	N/A	Relative Humidity :	N/A
Pressure :	N/A	Test Date :	N/A cm ^o
Test Mode :	N/A	HUAKTL	HUAKTE
Test Power :	N/A	<u>e</u>	

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 4.7 SURGE TESTING

## 4.7.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-5
Required Performance	B untrastitution untrastitution unterna
Wave-Shape:	Combination Wave
	1.2/50 us Open Circuit Voltage
	8 /20 us Short Circuit Current
Test Voltage:	Power Line : 0.5 kV, 1 kV, 2 kV
Surge Input/Output:	L-N, L-PE, N-PE
Generator Source:	2 ohm between networks
Impedance:	12 ohm between network and ground
Polarity:	Positive/Negative
Phase Angle:	0 /90/180/270°
Pulse Repetition Rate:	1 time / min. (maximum)
Number of Tests:	5 positive and 5 negative at selected points

# 4.7.2 TEST PROCEDURE

## a. For EUT power supply:

The surge is to be applied to the EUT power supply terminals via the capacitive coupling network. Decoupling networks are required in order to avoid possible adverse effects on equipment not under test that may be powered by the same lines, and to provide sufficient decoupling impedance to the surge wave. The power cord between the EUT and the coupling/decoupling networks shall be 2meters in length (or shorter).

- b. For test applied to unshielded unsymmetrically operated interconnection lines of EUT: The surge is applied to the lines via the capacitive coupling. The coupling /decoupling networks shall not influence the specified functional conditions of the EUT. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).
- c. For test applied to unshielded symmetrically operated interconnection /telecommunication lines of EUT:
- d. The surge is applied to the lines via gas arrestors coupling. Test levels below the ignition point of the coupling arrestor cannot be specified. The interconnection line between the EUT and the coupling/decoupling networks shall be 2 meters in length (or shorter).

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## 4.7.3 TEST SETUP



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# 4.7.4 TEST RESULTS

EUT :	Humidifier	Model Name :	HM01
Temperature :	N/A	Relative Humidity :	N/A
Pressure :	N/A	Test Date :	N/A sm ⁶
Test Mode :	N/A	HUAKIL	HUAKTE
Test Power :	N/A		

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 4.8 INJECTION CURRENT TESTING

## 4.8.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-6		
Required Performance	A un result un result		
Frequency Range:	0.15 MHz - 80 MHz		
Field Strength:	3 Vr.m.s.		
Modulation:	1kHz Sine Wave, 80%, AM Modulation		
Frequency Step:	1 % of fundamental		
Dwell Time:	at least 3 seconds		

## 4.8.2 TEST PROCEDURE

The EUT and support equipment, are placed on a table that is 0.8 meter above a metal ground plane measured 1m*1m min. and 0.65mm thick min.

The other condition as following manner:

- a. The frequency range is swept from 150 KHz to 80 MHz, with the signal 80% amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- b. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.

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## 4.8.3 TEST SETUP



## NOTE:

## FLOOR-STANDING EQUIPMENT

The equipment to be tested is placed on an insulating support of 0.1 meters height above a ground reference plane. All relevant cables shall be provided with the appropriate coupling and decoupling devices at a distance between 0.1 meters and 0.3 meters from the projected geometry of the EUT on the ground reference plane.

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# 4.8.4 TEST RESULTS

EUT :	Humidifier	Model Name :	HM01
Temperature :	N/A	Relative Humidity :	N/A
Pressure :	N/A	Test Date :	N/A
Test Mode :	N/A	HUAKTL	HUAKTL
Test Power :	N/A	<u> </u>	

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 4.9 VOLTAGE INTERRUPTION/DIPS TESTING

## 4.9.1 TEST SPECIFICATION

Basic Standard:	IEC/EN 61000-4-11	. TF
Required Performance	C (For 0% Voltage Dips)	
	C (For 30% Voltage Dips)	
	C (For 60% Voltage Dips)	HUAKTE
Test Duration Time:	Minimum three test events in sequence	
Interval between Event:	Minimum ten seconds	TESTING
Phase Angle:	0°/45°/90°/135°/180°/225°/270°/315°/360°	
Test Cycle:	3 times	

## 4.9.2 TEST PROCEDURE

The EUT shall be tested for each selected combination of test levels and duration with a sequence of three dips/interruptions with intervals of 10 s minimum (between each test event). Each representative mode of operation shall be tested. Abrupt changes in supply voltage shall occur at zero crossings of the voltage waveform.

## 4.9.3 TEST SETUP



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## 4.9.4 TEST RESULTS

EUT :	Humidifier	Model Name :	HM01
Temperature :	N/A	Relative Humidity :	N/A
Pressure :	N/A	Test Date :	N/A star
Test Mode :	N/A	HUAKIL	HUAKIL
Test Power :	N/A		

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 5. EUT TEST PHOTO



## **Disturbance** Power



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# Electrostatic Discharge



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# ATTACHMENT PHOTOGRAPHS OF EUT

Photo 1



Photo 2



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Photo 3





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Photo 5





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Report No.: HK2109183580-1ER

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mm 01 02 05 04 05 09 05 08 06 00101 02 05 04 0

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Photo 9





# ※※End of Report※※

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## FCC TEST REPORT

#### Prepared for :

#### Shenzhen Hui Qi Mei Technology Co., Ltd.

301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China

Product:	Humidifier
Trade Name:	N/A systems
Model Name:	HM01
Date of Test:	Oct. 15, 2021 - Oct. 22, 2021
Date of Report:	Oct. 22, 2021
Report Number:	HK2109183581-1ER

#### Prepared By :

Shenzhen HUAK Testing Technology Co., Ltd.

1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

TEL: +86-755-2302 9901 FAX: +86-755-2302 9901 E-mail: service@cer-mark.com http://www.cer-mark.com

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## **TEST REPORT VERIFICATION**

А	pplicant	:	Shenzhen Hui Qi Mei Technology Co., Ltd.
Address		:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
N	lanufacturer	:	Shenzhen Hui Qi Mei Technology Co., Ltd.
Address		:	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
Е	UT Description	:	Humidifier
(A	A) Model No.	HUAK	HM01
(E	B) Series Model	:	N/A water water and a water and a water and a water and a
(0	C) Power Supply	:	DC5V From Type-C or DC3.7V From Battery

## Standards.....

FCC Part 15 Subpart B ANSI C63.4:2019

This device described above has been tested by HUAK, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. And it is applicable only to the tested sample identified in the report.

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Test Result..... Pass

Date of Test:

Oct. 15, 2021 - Oct. 22, 2021

(Gary Qian)

Technical Manager:

Authorized Signatory:

Testing Engineer:

(Eden Hu)

(Jason Zhou)

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1	. TEST SUMMARY				Ę	5
	1.1 TEST FACILITY				6	3
	1.2 MEASUREMENT U	JNCERTAINTY			HUANE	3
2	. GENERAL INFORM	ATION			7	7
	2.1 GENERAL DESCR	IPTION OF EUT	Blan		-NG	7
	2.2 DESCRIPTION OF	TEST MODES			S WASTESIN 8	3
	2.3 DESCRIPTION OF	TEST SETUP			Ç	9
	2.4 DESCRIPTION TE	ST PERIPHERA	LAND EUT PERIF	PHERAL	10	)
	2.5 MEASUREMENT I	NSTRUMENTS	LIST		NG JAK T	TIN
3	. EMC EMISSION TES	ST O ^{HUAN}			12	2
	3.1 CONDUCTED EMI	SSION MEASUR	REMENT		12	2
	3.1.1 POWER LINE	CONDUCTED	EMISSION		12	2
	3.1.2 TEST PROCE	EDURE			13	3
	3.1.3 TEST SETUP		NS		13	) 3
	3.1.5 TEST RESUL	TS			14	1
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	3.2.1 LIMITS OF R	ADIATED EMISS	SION MEASUREM	ENT	16	3
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	3.2.3 TEST SETUP		NS STEETING OF		NG 17	7
	3.2.5 TEST RESUL	TS	O HUAN		18	3
	3.2.6 TEST RESUL	TS(Above 1GHz	.)		20	)
4	. EUT TEST PHOTO				21	1
A	TTACHMENT PHOTO	GRAPHS OF E	UT HUM TEST		22	2

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**T** 591

## ** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	2021/10/22	Jason Zhou
AKTESTN-	KTESTN.	AK TESTIN.	AKTESTIN.
HUM	HUM	A HUM	AUM HUM

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## 1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part 15 Subpart B ANSI C63.4:2019	Conducted Emission	Class B	PASS	9
	Radiated Emission	Class B	PASS	resting

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

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#### 1.1 TEST FACILITY

Shenzhen HUAK Testing Technology Co., Ltd. Add. : 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization : A2LA Accreditation Code is 4781.01. FCC Designation Number is CN1229. Canada IC CAB identifier is CN0045. CNAS Registration Number is L9589.

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $y \pm U$ , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95**%.

A. Conducted Measurement :

Measurement Frequency Range	Uncertainty	NOTE
150 KHz ~ 30MHz	±2.71dB	HUAK

B. Radiated Measurement :

	2161	1038. YV*
Measurement Frequency Range	Uncertainty	NOTE
30MHz ~ 1000MHz	±3.90dB	K TESTING
1GHz ~6GHz	±4.28dB	O HUAN

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## 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

HUAK	HUAK	HUAR
Equipment	Humidifier	
Model Name	HM01	- WAX TESTING
Series Model	N/A	. Hunder
Model Difference	N/A	TESTING
Product Description	The EUT is a Humidifi Operating frequency: Connecting I/O port: Based on the applicat exhibited in User's Ma ITE/Computing Device specification, please r	ier.      N/A     N/A     ion, features, or specification anual, the EUT is considered as an e. More details of EUT technical refer to the User's Manual.
Power Source	DC Voltage	HUNKTL
Power Rating	DC5V From Type-C or	DC3.7V From Battery

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#### 2.2 DESCRIPTION OF TEST MODES

**HUAK TESTING** 

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1 Charging and Working	
Mode 2	Charging
Mode 3	Working
Mode 2 Mode 3	Charging Working

For Conducted Test			
Final Test Mode	Description		
Mode 1	Charging and Working		
Mode 2	Charging		
Mode 3	N/A		
upp.	and the second sec		

For Radiated Test			
Final Test Mode	Description		
Mode 1	Charging and Working	HU	
Mode 2	Charging	C)	
Mode 3	Working		

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## 2.3 DESCRIPTION OF TEST SETUP

#### Mode 1:



#### 2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

**HUAK TESTING** 

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

162	160	162	162	162	180
Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	Humidifier	N/A	HM01	N/A	EUT
E-2	Adapter	HUAWEI	HW-051000CHQ	N/A	ESTING
	HUAK	HUAN		HUA!	
	KTEST	99 10	K TESTING		
-	NG CSTING HUM	TING	-csTING HUM	TING	CSTING (
HUAKTEL	HUAK	HUAKTE	UAK	HUAKTE	NUAK
			9		
- G					G

Item	Shielded Type	Ferrite Core	Length	Note
NG		MG		TING
	-STING	K TES	STING HUAKTE	STING
	HUARIE	HUAK		HUAK
	TEST	6	TESTING	
	NG STING HUMAN	THE	STING HUAN	THE STING
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		<u>.</u>	0	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in  $\[ Length \]$  column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".

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## 2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
AK TESTING 1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 10, 2020	1 Year
2.	Receiver	R&S	ESR-7	HKE-010	Dec. 10, 2020	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 10, 2020	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 10, 2020	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 10, 2020	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Dec. 10, 2020	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	6 HKE-012	Dec. 10, 2020	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 10, 2020	1 Year
10.	Horn Antenna	Schewarzbeck	9120D	HKE-013	Dec. 10, 2020	1 Year
11.	Pre-amplifier	EMCI	EMC05184 5SE	HKE-015	Dec. 10, 2020	⁶ 1 Year
12.	Pre-amplifier	Agilent	83051A	HKE-016	Dec. 10, 2020	1 Year
13.	EMI Test Software EZ-EMC	Tonscend	JS1120-B Version	HKE-083	Dec. 10, 2020	1 Year
14.	Power Sensor	Agilent	E9300A	HKE-086	Dec. 10, 2020	1 Year
15.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 10, 2020	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Dec. 10, 2020	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Dec. 10, 2020	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 10, 2020	1 Year

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#### **3. EMC EMISSION TEST**

3.1 CONDUCTED EMISSION MEASUREMENT

## 3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

	Class A	(dBuV)	Class B (dBuV)		
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	
0.50 -5.0	73.00	60.00	56.00	46.00	
5.0 -30.0	73.00	60.00	60.00	50.00	

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The follow	ing table is the setting of the receiver	ILAK TESTI		
	Receiver Parameters	0	Setting	0
NG	Attenuation		10 dB	
	Start Frequency	TING	0.15 MHz	TING
	Stop Frequency	JAK TEL	30 MHz	HUAKTED
C	IF Bandwidth		9 kHz	9
-			16.1	





#### 3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

#### 3.1.3 TEST SETUP



#### Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

#### 3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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#### 3.1.5 TEST RESULTS

#### Note:

All the test modes completed for test. only the worst result of was reported. as below:

EUT :	Humidifier	Model Name. :	HM01	HUAKIL
Temperature :	<b>24</b> °C	Relative Humidity :	54%	w.
Pressure :	1010hPa	Test Date :	2021-10-20	
Test Mode :	Mode 1	Phase :	L	TESTING
Test Voltage :	DC5V From Type-C	HUAN	0	HURS



Suspected List										
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Type		
1	0.1545	51.24	20.03	65.75	14.51	31.21	PK	L		
2	0.2175	48.47	20.05	62.91	14.44	28.42	PK	L		
3	0.5415	46.61	20.05	56.00	9.39	26.56	PK	L		
4	3.9840	46.12	20.25	56.00	9.88	25.87	PK	L		
5	11.9625	42.06	19.99	60.00	17.94	22.07	PK	L		
6	27.9150	44.62	20.26	60.00	15.38	24.36	PK	L		

Remark: Margin = Limit – Level Correction factor = Cable lose + LISN insertion loss Level=Test receiver reading + correction factor

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<i></i>			
EUT :	Humidifier	Model Name. :	HM01
Temperature :	24 °C 💮 👘	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2021-10-20
Test Mode :	Mode 1	Phase :	N
Test Voltage :	DC5V From Type-C	TESTING	TESTING



Suspected List									
Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Туре		
0.1545	49.96	20.03	65.75	15.79	29.93	PK	N		
0.5415	40.13	20.05	56.00	15.87	20.08	PK	N		
3.9885	40.78	20.25	56.00	15.22	20.53	PK	N		
11.9535	38.26	19.99	60.00	21.74	18.27	PK	N		
19.9455	37.61	20.10	60.00	22.39	17.51	PK	N		
29.2830	43.15	20.26	60.00	16.85	22.89	PK	N		
	Freq. [MHz] 0.1545 0.5415 3.9885 11.9535 19.9455 29.2830	Freq.     Level       [MHz]     [dBµV]       0.1545     49.96       0.5415     40.13       3.9885     40.78       11.9535     38.26       19.9455     37.61       29.2830     43.15	Freq.     Level     Factor       [MHz]     [dBµV]     [dB]       0.1545     49.96     20.03       0.5415     40.13     20.05       3.9885     40.78     20.25       11.9535     38.26     19.99       19.9455     37.61     20.10       29.2830     43.15     20.26	Preq.     Level     Factor     Limit       [MHz]     [dBµV]     [dB]     [dBµV]       0.1545     49.96     20.03     65.75       0.5415     40.13     20.05     56.00       3.9885     40.78     20.25     56.00       11.9535     38.26     19.99     60.00       19.9455     37.61     20.26     60.00	Freq.     Level     Factor     Limit     Margin       [MHz]     [dBµV]     [dB]     [dBµV]     [dB]     [dBµV]     [dB]       0.1545     49.96     20.03     65.75     15.79       0.5415     40.13     20.05     56.00     15.87       3.9885     40.78     20.25     56.00     15.22       11.9535     38.26     19.99     60.00     21.74       19.9455     37.61     20.26     60.00     16.85	Freq.     Level     Factor     Limit     Margin     Reading       [MHz]     [dBµV]     [dB]     [dBµV]     [dBµV]	Freq. [MHz]     Level [dBµV]     Factor [dB]     Limit [dBµV]     Margin [dB]     Reading [dBµV]     Detector       0.1545     49.96     20.03     65.75     15.79     29.93     PK       0.5415     40.13     20.05     56.00     15.87     20.08     PK       3.9885     40.78     20.25     56.00     15.22     20.53     PK       11.9535     38.26     19.99     60.00     21.74     18.27     PK       19.9455     37.61     20.10     60.00     22.39     17.51     PK       29.2830     43.15     20.26     60.00     16.85     22.89     PK		

Remark: Margin = Limit – Level Correction factor = Cable lose + LISN insertion loss (Level=Test receiver reading + correction factor

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#### 3.2 RADIATED EMISSION MEASUREMENT

#### 3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

	Class A (at 10m)	Class B (at 3m)			
	dBuV/m	dBuV/m			
30 ~ 88	39.0	40.0			
88 ~ 216	43.5	43.5			
216 ~ 960	46.5	46.0			
Above 960	49.5	54.0			

Notes:

- (1) The limit for radiated test was performed according to as following: FCC PART 15B /ICES-003.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

#### 3.2.2 TEST PROCEDURE

- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item -EUT Test Photos.

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#### 3.2.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



#### (B) Radiated Emission Test Set-Up Frequency Above 1GHz



#### 3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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#### 3.2.5 TEST RESULTS

#### Note:

All the test modes completed for test. only the worst result of was reported. as below:

EUT :	Humidifier	Model Name :	HM01	
Temperature :	<b>24</b> °C	Relative Humidity :	54%	
Pressure :	1010 hPa	Test Date :	2021-10-20	
Test Mode :	Mode 1	Polarization :	Horizontal	
Test Power :	DC5V From Type-C	<i>w</i>	HUP	



QP Detector

Suspected List

Suspe	Suspected List									
NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Polority	
	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity	
1	104.7648	-15.41	52.20	36.79	43.50	6.71	100	146	Horizontal	
2	131.9520	-18.69	51.73	33.04	43.50	10.46	100	43	Horizontal	
3	180.5005	-16.81	54.40	37.59	43.50	5.91	100	103	Horizontal	
4	221.2813	-14.53	49.63	35.10	46.00	10.90	100	268	Horizontal	
5	299.9299	-12.74	39.43	26.69	46.00	19.31	100	276	Horizontal	
6	368.8689	-11.04	29.72	18.68	46.00	27.32	100	264	Horizontal	

Final Data List

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;

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## **HUAK TESTING**

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#### Report No.: HK2109183581-1ER

EUT :	Humidifier	Model Name :	HM01
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2021-10-20
Test Mode :	Mode 1	Polarization :	Vertical
Test Power :	DC5V From Type-C		



#### QP Detector

#### Suspected List

Suspected List									
NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Polarity
	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	
1	54.2743	-14.30	49.42	35.12	40.00	4.88	100	183	Vertical
2	88.2583	-17.49	50.84	33.35	43.50	10.15	100	17	Vertical
3	124.1842	-17.72	56.00	38.28	43.50	5.22	100	44	Vertical
4	137.7778	-19.04	57.24	38.20	43.50	5.30	100	289	Vertical
5	166.9069	-17.58	54.27	36.69	43.50	6.81	100	333	Vertical
6	221.2813	-14.53	45.83	31.30	46.00	14.70	100	226	Vertical

Final Data List

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;

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## 3.2.6 TEST RESULTS(Above 1GHz)

EUT :   Humidifier   Model Name :   HM01     Temperature :   N/A   Relative Humidity :   N/A     Pressure :   N/A   Test Date :   N/A     Test Mode :   N/A   Test Date :   N/A					
Temperature : N/A Relative Humidity : N/A   Pressure : N/A Test Date : N/A   Test Mode : N/A Test Date : N/A	EUT :	Humidifier	Model Name :	HM01	
Pressure : N/A Test Date : N/A   Test Mode : N/A	Temperature :	N/A	Relative Humidity :	N/A	TING
Test Mode : N/A	Pressure :	N/A	Test Date :	N/A	HUAKTED
	Test Mode :	N/A	0	9	0
lest Power : N/A	Test Power :	N/A		STING	

Note:

- 1) N/A denotes test is not applicable in this test report
- 2) There was not any unintentional transmission in standby mode

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## 4. EUT TEST PHOTO

**Conducted Emission** 



**Radiated Emission** 



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## ATTACHMENT PHOTOGRAPHS OF EUT

Photo 1



Photo 2



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Photo 3



Photo 4



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Report No.: HK2109183581-1ER

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Photo 5



Photo 6



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Photo 8

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Photo 7

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Report No.: HK2109183581-1ER



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Report No.: HK2109183581-1ER

Photo 9



Photo 10

<u>ao 80 20 60 20 40 30 20 10100 ao 80 20 60 20 40 30</u>

.....End of Report.....

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## SUPPLIER'S DECLARATION OF CONFORMITY

## ATTESTATION

The Product has been tested and found compliance with the requirement of 47 CFR of PART 15 limit for radiation and conduction emission.

Based on the following criteria and procedures, product complies with FCC rules conformity assessment.

NTICATORS WITH FULL OBLIGATION	NS TO VE REFCATION AUTHER TICKORS WITH FULL BUGATIONS TO VERIL CATION AUTHENTICATOR
Certificate's Holder :	Shenzhen Hui Qi Mei Technology Co., Ltd.
HERMICATORS WITH FULL OBLIG THEMICATORS WITH FULL OBLIG AUTHENTICATORS ORS WITH FULL OBLIG AUTHENTICATORS WITH FULL OBLIG AUTHENTICATORS WITH FULL OBLIG AUTHENTICATORS WITH FULL OBLIG	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
Manufacturer	Shenzhen Hui Qi Mei Technology Co., Ltd.
ATHENTICATORS WITH Address UTHENTICATORS WITH Address UTHENTICATORS WITH THE CATOR AUTHENTICATORS ST ENTICATOR AUTHENTICATORS ST ENTICATORS	301-401, Factory Area A, Zhongtianxin, No.4, Longping West Road, Shengping Community, Longcheng Street, Longgang District, Shenzhen, China
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Report No.	HK2109183581-1ER
Registration Date :	Oct. 22, 2021

**Certification Manager** 



The information of the certificate can be checked through www.cer-mark.com. The FCC mark which is shown on the certificate can only be used under the conditions that the products complete with all of the relevant Procedure of SUPPLIER'S DECLARATION OF CONFORMITY. The Manufacturer should be responsible for the internal production control so that the products complied with the essential requirements of the above mentioned Procedure. Certificate holder must notify all changes to the original certification laboratory of HUAK.

#### Shenzhen HUAK Testing Technology Co., Ltd.

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**Certification Manager** 



The information of the certificate can be checked through www.cer-mark.com. The submitted sample of the above product has been tested for PSE marking according to the following PSE requirements, Standard(s) used for showing compliance with the essential requirements in the specified directive(s). The Manufacturer should be responsible for the internal production control so that the products complied with the essential requirements of the above mentioned Directive(s). Certificate holder must notify all changes to the original certification laboratory of HUAK.

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