




<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	<b>50292814 001</b>	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	<b>168121322</b>	<b>Seite 1 von 39</b> <i>Page 1 of 39</i>
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	<b>N/A</b>	<b>Auftragsdatum:</b> <i>Order date:</i>	<b>03.05.2018</b>	
<b>Auftraggeber:</b> <i>Client:</i>	<b>Shenzhen Safety Electronic Technology Co., Ltd.</b> See page 2			
<b>Prüfgegenstand:</b> <i>Test item:</i>	<b>Photoelectric Smoke Alarm</b>			
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	<b>WIFI-301, WIFI-302, WIFI-303</b>			
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	<b>TÜV Rheinland CE_CPR</b>			
<b>Prüfgrundlage:</b> <i>Test specification:</i>	<b>EN 14604:2005/AC:2008</b> Smoke alarm devices			
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	<b>12.08.2019</b>			
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	<b>A000973564 001~010</b>			
<b>Prüfzeitraum:</b> <i>Testing period:</i>	<b>15.08.2018 - 11.09.2019</b>			
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	<b>See page 4</b>			
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	<b>TÜV Rheinland (Shenzhen) Co., Ltd.</b>			
<b>Prüfergebnis*:</b> <i>Test result*:</i>	<b>Pass</b>			
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>		
<b>11.09.2019</b> <b>Datum</b> <i>Date</i>	<b>Elin Dong / Project Engineer</b> <b>Name / Stellung</b> <i>Name / Position</i>	 <b>Unterschrift</b> <i>Signature</i>	<b>11.09.2019</b> <b>Datum</b> <i>Date</i>	<b>Isaac Liang / Reviewer</b> <b>Name / Stellung</b> <i>Name / Position</i>
				 <b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other:</b> Attachement 1: Equipment list. 2: Photo Documentation. Supervised by Andy Chen _____ This report is based on SQL test report WY1914100010 Test Engineer(SQL): _____				
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>		<b>Prüfmuster vollständig und unbeschädigt</b> <i>Test item complete and undamaged</i>		
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>				
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>				

<b>TEST REPORT</b> <b>EN 14604</b> <b>Smoke alarm devices</b>	
<b>Report Number</b> .....	50292814 001
<b>Date of issue</b> .....	See cover page
<b>Total number of pages</b> .....	See cover page
<b>Applicant's name</b> .....	Shenzhen Saifuli Development Co., Ltd.
<b>Address</b> .....	301 A Building, Zhangge Tech-Park Dafu Industrial Zone, zhangge, Guanlan, Longhua District, Shenzhen, P.R. China
<b>Manufactory's name</b> .....	Shenzhen Saifuli Development Co., Ltd.
<b>Address</b> .....	301 A Building, Zhangge Tech-Park Dafu Industrial Zone, zhangge, Guanlan, Longhua District, Shenzhen, P.R. China
<b>Factory's name</b> .....	Shenzhen Saifuli Development Co., Ltd.
<b>Address</b> .....	301 A Building, Zhangge Tech-Park Dafu Industrial Zone, zhangge, Guanlan, Longhua District, Shenzhen, P.R. China
<b>Test specification:</b>	
<b>Standard</b> .....	EN 14604:2005/AC:2008
<b>Test procedure</b> .....	TÜV Rheinland CE_CPR
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	EN14604_A
<b>Test Report Form(s) Originator</b> .....	TÜV Rheinland
<b>Master TRF</b> .....	Dated 2016-03
<b>Test item description</b> .....	Photoelectric Smoke Detector
<b>Trade Mark</b> .....	Shenzhen Saifuli Development Co., Ltd.
<b>Manufacturer</b> .....	Same as applicant
<b>Model/Type reference</b> .....	WIFI-301, WIFI-302, WIFI-303
<b>Ratings</b> .....	DC 3V

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

1. Equipment list (1 page)
2. Photo documentation (4 pages)

**Summary of testing:****Tests performed (name of test and test clause):**

Clause(s)	Test(s)
5.3	Directional dependence
5.6	Dazzling
5.14	Electrostatic discharge
	Radiated electromagnetic fields

The model WIFI-301 is selected to perform all tests and passed, representing for other models. The rest models' battery capacity are checked in additional.


**Testing location:**

**Shanghai Institute of Quality Inspection and Technical Research**

No.900 Jiang Yue Rd. Minhang District Shanghai

### Copy of marking plate

#### Shenzhen Safety Electronic Technology Co., Ltd.

1. Photoelectric Smoke alarm
2. Standard: EN 14604:2005/AC:2008
3. Service Voltage: DC 3.0V 
4. Power Supply: LR03 battery (Brand:GP/NANFU)
5. Standby Current:  $\leq 20 \mu A$  Alarm Current:  $\leq 35mA$
6. Alarm Indication: sound-light alarm Sound Volume:  $\geq 85dB/3m$
7. WIFI:2.4G frequency support,802.11 a/b/g/n



#### Notice:


1. Test the alarm for correct operation using the test facility, whenever the battery is replaced
2. Replace after 10 years from starting to use

Technical data: see DOP-SFLY-301-2018 held by the manufacturer

Add: zhangge technical park longhua,shenzhen 518110,China

S3001904001A

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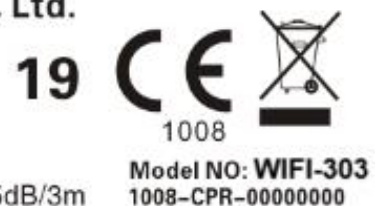
Technical data: see DOP-SFLY-301-2018 held by the manufacturer

Add: zhangge technical park longhua,shenzhen 518110,China

S3001904001A

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Add: zhangge technical park longhua,shenzhen 518110,China

S3001904001A

<b>Test item particulars .....</b>	Photoelectric Smoke Detector
<b>Classification of installation and use .....</b>	Class III
<b>Supply Connection .....</b>	Battery compartment
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N/A
- test object does meet the requirement .....	P (Pass)
- test object does not meet the requirement .....	F (Fail)
<b>Testing .....</b>	
<b>Date of receipt of test item .....</b>	See cover page
<b>Date (s) of performance of tests .....</b>	See cover page
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p><b>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</b></p>	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-1:</b>	
<p>The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:</p> <p style="text-align: right;"><input type="checkbox"/> <b>Yes</b>  <input checked="" type="checkbox"/> <b>Not applicable</b></p>	
<b>When differences exist; they shall be identified in the General product information section.</b>	
<p><b>Name and address of factory (ies) .....</b> Shenzhen Saifuli Development Co., Ltd.</p> <p style="text-align: right;">301 A Building, Zhangge Tech-Park Dafu Industrial Zone, zhangge, Guanlan, Longhua District, Shenzhen, P.R. China</p>	

**General product information:**

1. These products are photoelectric type smoke alarm devices with wireless module.
2. Only enclosure appearance are different between WIFI-301, WIFI-302 and WIFI-303, the construction, critical components, smoke chamber, designed circuit, PCB layout, mounting base, critical components, and service life are all the same, see details in photo documentation as attachment.
3. Products are powered by unreplaceable battery, DC 3.0V, type LR03, providing with at least 1 year operating life.
4. Products are intended to be installed in accordance with user manual to insure the appropriate performance.

<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>General requirements</b>		<b>P</b>
<b>4.1</b>	<b>Compliance</b>		<b>P</b>
	The smoke alarm shall be verified by visual inspection or engineering assessment, shall be tested as described in Clause 5.		P
	For smoke alarms which a manufacturer claims are suitable for leisure accommodation vehicles, the tests in Annex L shall be applied.	Not suitable for leisure accommodation vehicles.	N/A
<b>4.2</b>	<b>Individual alarm indicator (optional)</b>		P
	Alarm indicators, if fitted, shall be red and shall be separate from the mains-on indicator.		P
<b>4.3</b>	<b>Mains-on indicator</b>	3Vdc Battery supplied.	N/A
	A smoke alarm intended to be connected to the AC mains shall be provided with a continuous mains on indicator to indicate energization of the unit. This indicator shall be colored green and shall be separate from any other indicators.		N/A
	If more than one light-emitting indicator is provided on the smoke alarm, the mains-on indicator shall be green, an alarm indicator shall be red, and a fault indicator shall be amber or yellow.		N/A
<b>4.4</b>	<b>Connection of external ancillary devices</b>		N/A
	The smoke alarm may provide for connections to external ancillary devices shall not prevent the correct operation of the smoke alarm when open- or short-circuit of these connections occur.		N/A
<b>4.5</b>	<b>Means of calibration</b>		<b>P</b>
	The manufacturer's means of calibration shall not be readily adjustable, on site, after manufacture.		P
<b>4.6</b>	<b>User replaceable components</b>		<b>P</b>
	Except for batteries or fuses, a smoke alarm shall have no user replaceable or serviceable components.	Battery	P
<b>4.7</b>	<b>Normal power source</b>		<b>P</b>
	Internal or external to the smoke alarm housing.	Internal, 3Vdc Battery supplied.	P
	Where the power source is internal to the smoke alarm, the source shall meet the following requirements.		P
	Operating the smoke alarm for at least one year's life		P

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Clause	Requirement + Test	Result - Remark	Verdict
	A distinctive audible fault signal shall be given before a battery is incapable of operating for alarm purposes.		P
	The smoke alarm shall be capable of producing an alarm signal for at least 4 min at the battery voltage at which a fault signal is normally obtained or 30 days of fault signal operation.		P
	The internal power source shall be replaceable by the user unless its operating life in the smoke alarm is 10 years or greater.	Replaceable battery	P
<b>4.8</b>	<b>Standby power source</b>	No standby power source used.	N/A
<b>4.8.1</b>	<b>General</b>		N/A
	For smoke alarms intended for connection to an external power supply, for which an integral backup/ standby power facility is provided, the following requirements shall apply:		N/A
	a) primary cell battery back-up power supply shall be capable of meeting the requirements of 4.15;		N/A
	b) rechargeable back-up power sources shall be capable of supplying the quiescent load of the smoke alarm for a minimum period of 72 h followed by an alarm signal as specified in 5.17 for at least 4 min in the event of fire, or in the absence of a fire, a fault warning for at least 24 h.		N/A
<b>4.8.2</b>	<b>Monitoring of back-up power source</b>		N/A
	The back-up power source shall be monitored by the smoke alarm for faults (low back-up, open circuit and short circuit).		N/A
<b>4.9</b>	<b>Electrical safety requirements</b>		P
	The apparatus shall be designed and constructed so as to present no danger, either in normal use or under fault conditions, as determined by the tests and requirements in 5.24.		P
<b>4.10</b>	<b>Routine test facility</b>		P
	A routine test facility shall be provided on all smoke alarms to simulate either mechanically or electrically the presence of smoke in the sensing assembly.		P



<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4.11</b>	<b>Terminals for external conductors</b>	No such terminal used.	N/A
	If intended to have external connections, shall provide for the connection of conductors by means of screws, nuts or equally effective devices.		N/A
	For mains-powered smoke alarms which utilize a "flying lead"-type connector, the connector shall be regarded as a conductor. If terminals are provided, they shall allow the connection of conductors having nominal cross-sectional areas of 0.4 mm <sup>2</sup> – 1.5 mm <sup>2</sup> .		N/A
	Flying lead type connectors shall be subjected to a pull test, such that when the connector is subjected to a pull of 20 N without jerks for 1 min in any direction allowed by the design, the connector does not become detached.		N/A
<b>4.12</b>	<b>Smoke alarm signals</b>		P
	In a smoke alarm which employs one or more non-fire alarm features the following operation shall be obtained:		P
	a) the smoke alarm fire alarm signal shall take precedence over any other signal even when such other signal is initiated first.		P
	b) distinctive signals shall be obtained between a smoke alarm's fire alarm and other non-fire alarm functions. Use of a common sounder is permitted if distinctive signals are obtained. If an audible fault signal is provided it shall be distinctive from all alarm signals but may be common to all functions employed.		P
<b>4.13</b>	<b>Battery removal indication</b>		P
	The removal of any user-replaceable battery used to power, or provide back-up power, for the smoke detection circuit/sounder, from a battery or mains powered d.c. backed smoke alarm, shall result in a visual, mechanical or audible warning that the battery has been removed. The visual warning shall not depend upon a power source.		P
<b>4.14</b>	<b>Battery connections</b>		P

<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Lead or terminal connections to batteries shall be identified with the proper polarity (plus or minus). The polarity may be indicated on the unit adjacent to the battery terminals or leads.		P
	Any leads connecting the terminal connectors of batteries in smoke alarms to the smoke alarm circuit board shall be provided with strain relieving devices adjacent to both battery terminal connectors and the smoke alarm circuit board so that when the leads are subjected to a pull of 20 N without jerks for 1 min in any direction allowed by the design, the pull is not transmitted to the joints between the leads and the battery terminal connectors or between the leads and the smoke alarm circuit board.		P
<b>4.15</b>	<b>Battery capacity</b>		P
	The batteries supplied with or specified for use in smoke alarms shall be capable of supplying the quiescent load of the smoke alarm together with the additional load resulting from a routine weekly 10 s test, for at least 1 year before the battery fault warning is given. At the point when the battery fault warning commences, the batteries shall have sufficient capacity to give an alarm signal as specified in 5.17 for at least 4 min in the event of fire, or in the absence of fire a battery fault warning for at least 30 days.		P
	In the absence of suitable test procedures to verify battery capacity, data concerning the smoke alarm loads and the battery characteristics shall be used to indicate that the above requirement can be met.		P
<b>4.16</b>	<b>Protection against the ingress of foreign bodies</b>		P
	The smoke alarm shall be so designed that a sphere of diameter $(1.3 \pm 0.05)$ mm cannot pass into the sensor chamber(s).	1.17mm, the test finger does not pass into the sense chamber.	P
<b>4.17</b>	<b>Additional requirements for software controlled smoke alarms</b>		P
<b>4.17.1</b>	<b>General</b>		P
	For smoke alarms, which rely on software control in order to fulfil the requirements of this document, the requirements of 4.17.2, 4.17.3 and 4.17.4 shall be met.		P

<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4.17.2</b>	<b>Software documentation</b>		P
<b>4.17.2.1</b>	The documentation shall be in sufficient detail for the design to be inspected for compliance with this document and shall include at least the following:		P
	a) a functional description of the main program flow (e.g. as a flow diagram or structogram) including: <ol style="list-style-type: none"> <li>1) a brief description of the modules and the functions that they perform;</li> <li>2) the way in which the modules interact;</li> <li>3) the overall hierarchy of the program;</li> <li>4) the way in which the software interacts with the hardware of the smoke alarms;</li> <li>5) the way in which the modules are called, including any interrupt processing.</li> </ol>		P
	b) a description of which areas of memory are used for the various purposes (e.g. the program, site specific data and running data);		P
	c) a designation, by which the software and its version can be uniquely identified.		P
<b>4.17.2.2</b>	The manufacturer shall have available detailed design documentation, which only needs to be provided if required by the testing authority. It shall comprise at least the following:		P
	a) an overview of the whole system configuration, including all software and hardware components;		P
	b) a description of each module of the program, containing at least: <ol style="list-style-type: none"> <li>1) the name of the module;</li> <li>2) a description of the tasks performed;</li> <li>3) a description of the interfaces, including the type of data transfer, the valid data range and the checking for valid data.</li> </ol>		P
	c) full source code listings, as hard copy or in machine-readable form (e.g. ASCII-code), including all global and local variables, constants and labels used, and sufficient comment for the program flow to be recognized;		P

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Clause	Requirement + Test	Result - Remark	Verdict
	d) details of any software tools used in the design and implementation phase (e.g. CASE-tools, compilers).		P
<b>4.17.3</b>	<b>Software design</b>		P
	In order to ensure the reliability of the smoke alarm, the following requirements for software design shall apply:		P
	a) the software shall have a modular structure;		P
	b) the design of the interfaces for manually and automatically generated data shall not permit invalid data to cause errors in the program operation;		P
	c) the software shall be designed to avoid the occurrence of deadlock of the program flow.		P
<b>4.17.4</b>	<b>The storage of programs and data</b>		P
	The program necessary to comply with this document and any preset data, such as manufacturer's settings, shall be held in non-volatile memory.		P
	Site-specific data shall be held in memory which will retain data for at least two weeks without power from the mains or any replaceable battery, unless provision is made for the automatic renewal of such data, following loss of power, within 1 h of power being restored.		P
<b>4.18</b>	<b>Inter-connectable smoke alarms</b>		N/A
	If a means of connecting a number of smoke alarms to give a general alarm signal is provided the following shall apply (see 5.19).		N/A
	a) The audible alarm signal shall be emitted by all of the interconnecting smoke alarms when the smoke is detected by any one or more of them. If the smoke alarms are provided with an alarm silence facility, initiation of the alarm silence period of one of the smoke alarms shall not prevent the audible alarm signal being emitted by that smoke alarm when the smoke is detected by any of the other alarms.		N/A

<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	b) The interconnection of the maximum number of smoke alarms allowed by the manufacturer shall not have a significant effect on the sensitivity of the smoke alarms nor their ability to meet the battery capacity or sound output requirements (see 4.15 and 5.17).		N/A
	c) For battery-operated smoke alarms, open or short-circuits of the interconnecting leads either shall not prevent the smoke alarms from functioning individually or shall result in an alarm condition or fault warning.		N/A
<b>4.19</b>	<b>Marking and data</b>		P
<b>4.19.1</b>	<b>Smoke alarm marking</b>	See labels on page 4.	P
	Each alarm shall be indelibly marked with the following:		P
	a) the number and date of this document, i.e. EN 14604:2005;		P
	b) the name or trade mark and address of the manufacturer or supplier;		P
	c) the date of manufacture, or the batch number;		P
	d) the manufacturer's recommended date for replacement, subject to normal, regular maintenance;		P
	e) smoke alarms incorporating user replaceable batteries: the type or numbers of batteries recommended by the manufacturer and an instruction to the user "Test the alarm for correct operation using the test facility, whenever the battery is replaced"; which shall be visible during the operation of changing the batteries;	See label and user manual.	P
	f) smoke alarms incorporating non-replaceable batteries: the warning "WARNING — Battery not replaceable — See instruction manual" which shall be visible during normal use.		N/A
	The marking cannot be removed when rubbed lightly with a piece of cloth soaked with petroleum spirit and then water.		P
<b>4.19.2</b>	<b>Packaging marking</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	The point-of-sale carton, in which a smoke alarm employing a radionuclide is packaged, shall be permanently marked on the exterior with the trefoil symbol, name of radionuclide, and activity.		N/A
<b>4.19.3</b>	<b>Data</b>	See user manual.	P
	Information supplied on or with smoke alarms shall include instructions on siting, installation and maintenance.		P
	The information provided with smoke alarms incorporating user-replaceable batteries shall include specific guidance on changing the batteries.		P
	For smoke alarms incorporating non-replaceable batteries, information shall be given on the action to be taken if a battery fault warning is emitted.		N/A
	Information for inter-connectable smoke alarms shall state the maximum number that may be interconnected. Details of suitable cables shall also be given.		N/A
	Information for smoke alarms intended for connection to mains supplies shall include a warning that draws attention to the hazards associated with mains voltages and recommends that the smoke alarm, together with any associated supply and interconnect wiring, be installed in accordance with appropriate national electrical installation regulations.		N/A
	If it is claimed that the smoke alarm is also suitable for use in leisure accommodation vehicles (LAVs) this shall be clearly stated in the information supplied on or with the smoke alarm.		N/A

<b>5</b>	<b>Tests</b>		P
<b>5.1</b>	<b>General</b>		P
<b>5.1.1</b>	<b>Atmospheric conditions for tests</b>		P

<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>The testing shall be carried out after the test specimen has been allowed to stabilize in the standard atmospheric conditions for testing as follows:</p> <p>a) temperature 15 °C to 35 °C;</p> <p>b) relative humidity 25 % to 75 %;</p> <p>c) air pressure 86 kPa to 106 kPa.</p>		P
<b>5.1.2</b>	<b>Operating conditions for tests</b>		P
	<p>If a test method requires a specimen to be operational, then the specimen shall be connected to, or provided with, a suitable power source with characteristics as required by the manufacturer's data.</p> <p>Unless otherwise specified in the test method, the power source parameters applied to the specimen shall be set within the manufacturer's specified range(s) and shall remain substantially constant throughout the tests. The value chosen for each parameter shall normally be the nominal value, or the mean of the specified range.</p>		P
<b>5.1.3</b>	<b>Mounting arrangements</b>		P
	<p>The specimen shall be mounted by its normal means of attachment in accordance with the manufacturer's instructions. If these instructions describe more than one method of mounting then the method considered to be most unfavourable shall be chosen for each test.</p>		P
<b>5.1.4</b>	<b>Tolerances</b>		P
	<p>If a specific tolerance or limit is not specified in a requirement or test procedure, a tolerance of <math>\pm 5\%</math> shall be applied.</p>		P
<b>5.1.5</b>	<b>Measurement of response threshold value</b>		P
	<p>The specimen shall be installed in the smoke tunnel, described in Annex A, in its normal operating position, by its normal means of attachment.</p>		P
	<p>The air velocity in the proximity of the specimen shall be <math>(0.2 \pm 0.04)</math> ms<sup>-1</sup> during the measurement.</p>		P
	<p>The air temperature in the tunnel shall be <math>(23 \pm 5)</math> °C and shall not vary by more than 5 °C for all the measurements on a particular smoke alarm type.</p>		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The specimen shall be connected to its power source as described in 5.1.2, and shall be allowed to stabilize for at least 15 min, unless otherwise specified by the manufacturer.		P
<b>5.1.6</b>	<b>Provision for tests</b>		P
	The following shall be provided for testing compliance:		P
	a) 20 specimens;		P
	b) data required in 4.19.		P
<b>5.1.7</b>	<b>Test schedule</b>		P
	The smoke alarms shall be numbered as specified in 5.4.2. The tests on each smoke alarm indicated in Table 1 shall be carried out in the order in which they are listed.		P
<b>5.3</b>	<b>Directional dependence</b>		P
<b>5.3.1</b>	<b>Object</b>		P
	To show that the sensitivity of the smoke alarm is not unduly dependent on the direction of airflow around the smoke alarm.		P
<b>5.3.2</b>	<b>Test procedure</b>		P
	The response threshold value of the specimen to be tested shall be measured eight times as described in 5.1.5 with the specimen being rotated 45° about its vertical axis between each measurement, so that the measurements are taken for eight different orientations relative to the direction of air flow.	See appended table	P
	The maximum response threshold value shall be designated $y_{max}$ or $m_{max}$ , the minimum value shall be designated $y_{min}$ or $m_{min}$ .		P
<b>5.3.3</b>	<b>Requirements</b>		P
	The ratio of the response threshold values $y_{max}:y_{min}$ or $m_{max}:m_{min}$ shall not be greater than 1.6.	$m_{max}:m_{min} = 1.21$	P
	The lower response threshold value $y_{min}$ shall not be less than 0.2 or $m_{min}$ shall not be less than 0.05 dB m <sup>-1</sup> .	$m_{max} = 0.126$ $m_{min} = 0.104$	P



<b>EN 14604</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>5.6</b>	<b>Dazzling</b>		P
<b>5.6.1</b>	<b>Object</b>		P
	To show that the sensitivity of the smoke alarm is not unduly influenced by the close proximity of artificial light sources. This test is only applied to smoke alarms using scattered light or transmitted light as ionization chamber smoke alarms are considered unlikely to be influenced.		P
<b>5.6.2</b>	<b>Test procedure</b>		P
	The response threshold value is measured as described in 5.1.5.	See appended table	P
	The four lamps are switched simultaneously ON for 10 s and then OFF for 10 s, ten times.		P
	Then switched ON again and after at least 1 min the response threshold value is measured as described in 5.1.5, with the lamps ON		P
<b>5.6.3</b>	<b>Requirements</b>		P
	During the periods when the switching sequences are being conducted and when the lamps are all on for at least 1 min, the specimen shall emit neither an alarm nor fault signal.		P
	For each orientation, the ratio of the response threshold $m_{\max}:m_{\min}$ shall not be greater than 1.6.		P
<b>5.14</b>	<b>Electromagnetic Compatibility (EMC), immunity tests (operational)</b>		P
	The following EMC immunity tests shall be carried out, as described in EN 50130-4:1995:	See appended table	P
	a) mains supply voltage dips and short interruptions;		N/A
	b) electrostatic discharge;		P
	c) radiated electromagnetic fields;		P
	d) conducted disturbances induced by electromagnetic fields;		N/A
	e) fast transient bursts;		N/A

EN 14604			
Clause	Requirement + Test	Result - Remark	Verdict
	f) slow high-energy voltage surges.		N/A
	The required operating condition shall be as described in 5.1.2.		P
	For these tests the criteria for compliance specified in EN 50130-4:1995 and the following shall apply.		P
	1) The functional test, called for in the initial and final measurements, shall be as follows: - the response threshold value shall be measured as described in 5.1.5. - the greater of the response threshold value measured in this test and that measured for the same specimen in the initial sensitivity test shall be designated $y_{\max}$ or $m_{\max}$ , and the lesser shall be designated $y_{\min}$ or $m_{\min}$ .		P
	2) The acceptance criteria for the functional test after the conditioning shall be as follows: -the ratio of the response threshold values $y_{\max}:y_{\min}$ or $m_{\max}:m_{\min}$ shall not be greater than 1.6.	See appended table	P

TABLE 5.3 Directional dependence									P
Model: SFL-302									
	Orient. (°)	0	45	90	135	180	225	270	315
	Sample No.	0.113	0.122	0.126	0.125	0.104	0.108	0.118	0.117
	7#								
		<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input checked="" type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.
		<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input checked="" type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.
	Result	<input checked="" type="checkbox"/> $m_{\min} = (0.104) \text{ dB/m}$ ; $m_{\max} / m_{\min} = (1.21)$ <input type="checkbox"/> $y_{\min} = ( )$ ; $y_{\max} / y_{\min} = ( )$							
	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\min} > 0.05 \text{ dB/m}$ or $y_{\min} > 0.02$ and $m_{\max} / m_{\min} < 1.6$ or $y_{\max} / y_{\min} < 1.6$ ) <input type="checkbox"/> Fail							

TABLE 5.3 Directional dependence									P
Model: SFL-303									
	Orient. (°)	0	45	90	135	180	225	270	315
	Sample No.	0.144	0.142	0.127	0.131	0.143	0.143	0.137	0.139
	7#								
		<input checked="" type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.
		<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input checked="" type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.
	Result	<input checked="" type="checkbox"/> $m_{\min} = (0.127) \text{ dB/m}$ ; $m_{\max} / m_{\min} = (1.13)$ <input type="checkbox"/> $y_{\min} = ( )$ ; $y_{\max} / y_{\min} = ( )$							
	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\min} > 0.05 \text{ dB/m}$ or $y_{\min} > 0.02$ and $m_{\max} / m_{\min} < 1.6$ or $y_{\max} / y_{\min} < 1.6$ ) <input type="checkbox"/> Fail							

TABLE 5.3 Directional dependence									P
Model: SFL-301									
	Orient. (°)	0	45	90	135	180	225	270	315
	Sample No.	0.107	0.113	0.114	0.105	0.103	0.104	0.123	0.108
	7#								
		<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input type="checkbox"/> max.	<input checked="" type="checkbox"/> max.	<input type="checkbox"/> max.
		<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input checked="" type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.	<input type="checkbox"/> min.
	Result	<input checked="" type="checkbox"/> $m_{\min} = (0.103) \text{ dB/m}$ ; $m_{\max} / m_{\min} = (1.19)$ <input type="checkbox"/> $y_{\min} = ( )$ ; $y_{\max} / y_{\min} = ( )$							

	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\min} > 0.05 \text{ dB/m}$ or $y_{\min} > 0.02$ and $m_{\max} / m_{\min} < 1.6$ or $y_{\max} / y_{\min} < 1.6$ ) <input type="checkbox"/> Fail
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<b>TABLE 5.6</b>	<b>Dazzling</b>				<b>P</b>
Sample No.2	m ( <u>90</u> ° lamps OFF):	0.105	m ( <u>90</u> ° lamps ON):	0.074	
	m ( <u>180</u> ° lamps OFF):	0.105	m ( <u>180</u> ° lamps ON):	0.071	
	Result	1 $m_{\max} / m_{\min} = ( 1.42 )$ ; 2 $m_{\max} / m_{\min} = ( 1.48 )$			
	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ or no false alarm nor fault signal ) <input type="checkbox"/> Fail			

TABLE 5.14	Electromagnetic Compatibility (EMC), immunity tests (operational)		P
Sample No. 2	Mains supply voltage dips and short interruptions		N/A
	After test:	Before test:	
	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input type="checkbox"/> min.	<input type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( \quad )$	
	Observation	<input type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	
Sample No. 10	Electrostatic discharge		P
	After test:	Before test:	
	<input checked="" type="checkbox"/> m: 0.125 (dB/m) <input type="checkbox"/> y	<input checked="" type="checkbox"/> m: 0.126 (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input checked="" type="checkbox"/> min.	<input checked="" type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( 1.01 )$	
	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	
Sample No. 11	Radiated electromagnetic fields		P
	After test:	Before test:	
	<input checked="" type="checkbox"/> m: 0.121 (dB/m) <input type="checkbox"/> y	<input checked="" type="checkbox"/> m: 0.126 (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input checked="" type="checkbox"/> min.	<input checked="" type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( 1.04 )$	
	Observation	<input checked="" type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	

Sample No. 2	Conducted disturbances induced by electromagnetic fields		N/A
	After test:	Before test:	
	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input type="checkbox"/> min.	<input type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( \quad )$	
	Observation	<input type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	
Sample No. 12	Fast transient bursts		N/A
	After test:	Before test:	
	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input type="checkbox"/> min.	<input type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( \quad )$	
	Observation	<input type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	
Sample No. 13	Slow high-energy voltage surges		N/A
	After test:	Before test:	
	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	<input type="checkbox"/> m: (dB/m) <input type="checkbox"/> y	
	<input type="checkbox"/> max. <input type="checkbox"/> min.	<input type="checkbox"/> max. <input type="checkbox"/> min.	
	Result	$m_{\max} / m_{\min} = ( \quad )$	
	Observation	<input type="checkbox"/> Pass ( $m_{\max} / m_{\min} \leq 1.6$ ) <input type="checkbox"/> Fail	

<b>List of Critical Components:</b>					
Object / part No.	Manufacturer / Trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Bottom / Enclosure	CHI MEI CORPORATION	PA-765A(+)	V-0, 85°C	UL 94	UL E56070
Plastic enclosure near H/S	CHI MEI CORPORATION	PA-765A(+)	V-0, 85°C	UL 94	UL E56070
PCB Inductor	GOLDENMAX INTERNATIONAL TECHNOLOGY (ZHUHAI) LTD	GDM-C3	V-0, 130°C	UL 94	UL E330731
	SHENZHEN LIGONGDA ELECTRONIC CO., LTD	DR2W9*12-56mH	L( 1-2): 56mH±10% L( 2-3): 28mH±10%	---	Test in appliance
Component 1: Shrinkable tube	FLUO TECH INDUSTRIES CO LTD	TFL	150°C	UL 224	UL E175982
Component 2: Magnet wire	PACIFIC ELECTRIC CO., LTD	2UEW	130°C	UL 1446	UL E201757
Smoke detector	Everlight	IR333C-A	Wavelength: $\lambda_p=940\text{nm}$	---	Test in appliance
Smoke receiver unit	Everlight	PD638B	Wavelength: $\lambda_p=940\text{nm}$	---	Test in appliance
Smoke Chamber	CHI MEI CORPORATION	PA-765A(+)	V-0, 85°C	UL 94	UL E56070
Battery	Great Power	LR03	1.5V	---	Test in appliance
IC (U1)	SONIX	SN8F5713 SOP-16	Voltage: 1.8V – 5.5V; Temperature range: -40°C ~ 85 °C	---	Test in appliance
Buzzer	SHEN ZHEN XINYATU ELECTRONICS CO., LTD	AT-35G-3.2CS	Response Frequency: 3200Hz±3.2kHz	---	Test in appliance
Software	Saifuli	Version:V19	---	---	Test in appliance

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>5</b>	<b>Marking and instructions</b>		<b>P</b>
	Comprehensible and easily discernible	The rating label is easily discernible	<b>P</b>
	Permanent durability against water and petroleum spirit	Compliance was checked by rubbing the marking by hand for 15 s with cloth soaked with water and cloth soaked with petroleum spirit, it was not possible to remove marking plate and no curling observed after the test	<b>P</b>
5.1	a) Identification, maker .....	Manufacturer name used.	<b>P</b>
	b) Model number or type reference .....	WIFI-301, WIFI-302, WIFI-303	<b>P</b>
	c) Class II symbol if applicable .....	Not class II	<b>N/A</b>
	d) Nature of supply .....	(See marking plate on page 4)	<b>P</b>
	e) Rated supply voltage .....	(See marking plate on page 4)	<b>P</b>
	f) Mains frequency if safety dependant .....		<b>N/A</b>
	g) Rated current or power consumption for apparatus supplied by supply apparatus for general use .....		<b>N/A</b>
	Measured current or power consumption .....	(see appended table 7.1)	<b>P</b>
	Deviation % (max 10%) .....		<b>N/A</b>
	h) Rated current or power consumption for apparatus intended for connection to an a.c. mains supply .....		<b>N/A</b>
	Measured current or power consumption .....		<b>N/A</b>
	Measured current or power consumption for Television set .....		<b>N/A</b>
	Deviation % (max 10%) .....		<b>N/A</b>
5.2	a) Earth terminal	Not class I equipment.	<b>N/A</b>
	b) Hazardous live terminals	No hazardous terminals.	<b>N/A</b>
	c) Markings on supply output terminals	No such output terminals	<b>N/A</b>
5.3	a) Use of triangle with exclamation mark		<b>N/A</b>
	b) marking on loudspeaker grille, IEC 60417-5036	No such grille	<b>N/A</b>
5.4	Instructions for use	Provided in user manual	<b>P</b>

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.1	a) Mains powered equipment not exposed to dripping or splashing. Warning concerning objects filled with liquid, etc.	Not connected to the mains.	N/A
	b) Hazardous live terminals, instructions for wiring	No such terminals.	N/A
	c) Instructions for replacing lithium battery	Non-replaceable.	N/A
	d) Class I earth connection warning	Not class I	N/A
	e) Instructions for multimedia system connection	Not multimedia system.	N/A
	f) Special stability warning for attachment of the apparatus to the floor/wall		N/A
	g) Warning: battery exposure to heat	Provided in user manual	P
	h) Warning: protective film on CRT face	No CRT used.	N/A
5.4.2	a-b) Disconnect device: plug/coupler or all-pole mains switch location, accessibility and markings	Not connected to the mains.	N/A
	c) Instructions for permanently connected equipment	No such equipment	N/A
	Marking, signal lamps or similar for completely disconnection from the mains		N/A

<b>7</b>	<b>Heating under normal operating conditions</b>		<b>P</b>
7.1	Temperature rises not exceeding specified values; fuse links and other protective devices defeated	(see appended table)	P
7.1.1	Temperature rise of accessible parts	(see appended table)	P
7.1.2	Temperature rise of parts providing electrical insulation	(see appended table)	P
7.1.3	Temperature rise of parts acting as a support or as a mechanical barrier		N/A
7.1.4	Temperature rise of windings		N/A
7.1.5	Parts not subject to a limit under 7.1.1 to 7.1.4		N/A
7.2	Softening temperature of insulating material supporting parts conductively connected to the mains carrying a current > 0,2 A at least 150 °C		N/A

<b>8</b>	<b>Constructional requirements with regard to the protection against electric shock</b>		<b>N/A</b>
8.1	Conductive parts covered by lacquer, paper, untreated textile oxide films and beads etc. considered to be bare	No hazard live parts inside EUT.	N/A
8.2	No shock hazard when changing voltage setting device, fuse-links or handling drawers etc.	Not necessary to change setting of voltage, fuse-link or handling drawers.	<b>N/A</b>



<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
8.3	Insulation of hazardous live parts not provided by hygroscopic material		N/A
8.4	No risk of electric shock from accessible parts or from parts rendered accessible following the removal of a cover which can be removed by hand	Battery 3V supply.	N/A
8.5	Class I equipment	Class III equipment	N/A
	Basic insulation between hazardous live parts and earthed accessible parts		N/A
	Resistors bridging basic insulation complying with 14.1 a)		N/A
	Capacitors bridging basic insulation complying with 14.2.1 a)		N/A
	Protective earthing terminal		N/A
8.6	Class II equipment and Class II constructions within Class I equipment	Class III equipment	N/A
	Double or reinforced insulation between hazardous live parts and accessible parts		N/A
	Components bridging double or reinforced insulation complying with 14.1 a) or 14.3		N/A
	Basic insulation bridged by components complying with 14.3.4.3.		N/A
	Basic and supplementary insulation each being bridged by a capacitor complying with 14.1 a)		N/A
	Double or reinforced insulation being bridged with 2 capacitors in series complying with 14.2.1 a)		N/A
	Double or reinforced insulation being bridged with a single capacitor complying with 14.2.1 b)		N/A
8.7	This clause is void		—
8.8	Basic or supplementary insulation > 0,4 mm (mm) :		N/A
	Reinforced insulation > 0,4 mm (mm) ..... :		N/A
	Thin sheet insulation (excluding non-separable thin sheet insulation. See 8.22)		N/A
	Basic or supplementary insulation, at least two layers, each meeting 10.3		N/A
	Basic or supplementary insulation, three layers any two of which meet 10.3		N/A
	Reinforced insulation, two layers each of which meet 10.3		N/A
	Reinforced insulation, three layers any two which meet 10.3		N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
8.9	Adequate insulation between internal hazardous live conductors and accessible parts		N/A
	Adequate insulation between internal hazardous live parts and conductors connected to accessible parts		N/A
8.10	Double insulation between conductors connected to the mains and accessible parts.	Class III equipment	N/A
	Double insulation between internal hazardous live parts and conductors connected to accessible parts.		N/A
8.11	Detaching of wires	No detaching wires used.	N/A
	No undue reduction of creepages or clearance distances if wires become detached		N/A
	Vibration test carried out ..... :	Yes / No	N/A
8.12	This clause is void		—
8.13	Adequate fastening of windows, lenses, lamp covers etc. (pull test 20 N for 10 s)		N/A
8.14	Adequate fastening of covers (push/pull test 50 N for 10 s)		N/A
8.15	No risk of damage to the insulation of internal wiring due to hot parts or sharp edges		N/A
8.16	Only special supply equipment can be used	No such equipment.	N/A
8.17	Insulated winding wire without additional interleaved insulation	No such equipment.	N/A
8.18	Endurance test as required by 8.17	No such equipment.	N/A
8.19	Disconnection from the mains	Not connected to mains.	N/A
8.19.1	Disconnect device	Not connected to mains.	N/A
	All-pole switch or circuit breaker with >3mm contact separation		N/A
8.19.2	Mains switch ON indication		N/A
8.20	Switch not fitted in the mains cord	Not connected to mains.	N/A
8.21	Bridging components comply with clause 14	Not connected to mains.	N/A
8.22	Non-separable thin sheet material	No such equipment.	N/A
<b>9</b>	<b>Electric shock hazard under normal operating conditions</b>	No hazard live parts inside EUT.	N/A
9.1	Testing on the outside		N/A
9.1.1	For voltages >1000 V ac or >1500 V dc complies with clause 13.3.1 for basic insulation	3V dc, no output terminals.	N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
9.1.1.1	a) Open circuit voltages	3V dc, no output terminals.	N/A
	b) Touch current measured from terminal devices using the network in annex D ..... :	Voltage U1 Voltage U2 Alternatively – Measured Current	N/A
	c) Discharge not exceeding 45 $\mu$ C		N/A
	d) Energy of discharge not exceeding 350 mJ		N/A
9.1.1.2	Test with test finger and test probe		N/A
9.1.2	No hazardous live shafts of knobs, handles or levers	No hazardous live parts.	N/A
9.1.3	Ventilation holes and other holes tested by means of 4 mm x 100 mm test pin		N/A
9.1.4	Terminal devices tested with 1 mm x 20 mm test pin (10 N); test probe D of IEC 61032	Not such terminals.	N/A
	Terminal devices tested with 1 mm x 100 mm straight wire (1 N); test probe D of IEC 61032	Not such terminals.	N/A
9.1.5	Pre-set controls tested with 2.5 mm x 100 mm test pin (10 N); test probe C of IEC 61032	No such equipment.	N/A
9.1.6	No shock hazard due to stored charge on withdrawal of the mains plug; voltage (V) after 2 s ..... :	Not connected to mains.	N/A
	If C is not greater than 0,1 $\mu$ F no test needed		N/A
9.1.7	Resistance to external forces		N/A
	a) Test probe 11 of IEC 61032 for 10 s (50 N)		N/A
	b) Test hook of fig. 4 for 10 s (20 N)		N/A
	c) 30 mm diameter test tool for 5 s (100 or 250 N)		N/A
9.2	No hazard after removing a cover by hand		N/A

<b>10</b>	<b>Insulation requirements</b>	No hazard live parts inside EUT, no insulation requirements.	N/A
10.1	Insulation resistance (M $\Omega$ ) at least 2 M $\Omega$ min. after surge test for basic and 4 M $\Omega$ min. for reinforced insulation ..... :	Class III equipment.	N/A
10.2	Humidity treatment 48 h or 120 h ..... :		N/A
10.3	Insulation resistance and dielectric strength between mains terminals		N/A
	Insulation Resistance and dielectric strength across BASIC or SUPPLEMENTARY insulation (Class I)		N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict

	Insulation resistance and dielectric strength across REINFORCED insulation (Class II)		N/A
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<b>11</b>	<b>Fault conditions</b>		<b>P</b>
11.1	No shock hazard under fault condition		P
11.2	Heating under fault condition		P
	Flames extinguish within 10 seconds	No flames.	P
	No hazard from softening solder	No hazard.	P
	Soldered terminations not used as protective mechanism		P
11.2.1	Measurement of temperature rises	(see appended table)	P
11.2.2	Temperature rise of accessible parts	(see appended table)	P
11.2.3	Temperature rise of parts, other than windings and printed boards, providing electrical insulation	(see appended table)	P
11.2.4	Temperature rise of parts acting as a support or mechanical barrier		P
11.2.5	Temperature rise of windings	No windings.	N/A
11.2.6	Temperature rise of printed boards shall not exceed the limits of table 3 by max. 100 K for max. 5 min	(see appended table)	P
	Printed circuit boards (PCB) classified as V-0 according to 60695-11-10 or Clause G.1 may exceed the limit in table 3 in case a) and b):	UL V-0 approval, and conduct the requirement with IEC 60695-11-10, clause G.1	P
	a) Temperature rise of printed circuit boards exceeding the limits of table 3 by not more than 100 K for an area not greater than 2 cm <sup>2</sup> .....		P
	b) Temperature rise of printed circuit boards exceeding the limits of table 3 up to 300 K for an area not greater than 2 cm <sup>2</sup> for a maximum of 5 min		N/A
	Meets all the special conditions if conductors on printed circuit boards are interrupted		P
	Class I protective earthing maintained	Class III equipment.	N/A
11.2.7	Temperature rise of parts not subject to the limits of 11.2.1 to 11.2.6 shall not exceed the limits in table 3, item e), "Fault conditions".	(see appended table)	P

<b>12</b>	<b>Mechanical strength</b>	No hazard live part in side EUT, no mechanical strength required/.	N/A
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<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
12.1.1	Bump test where mass >7 kg	0.2 kg	N/A
12.1.2	Vibration test		N/A
12.1.3	Impact hammer test		N/A
	Steel ball test		N/A
12.1.4	Drop test for portable apparatus where mass ≤ 7 kg	Not portable apparatus.	N/A
12.1.5	Thermoplastic enclosures stress relief test		N/A
12.2	Fixing of knobs, push buttons, keys and levers	No such components.	N/A
12.3	Remote controls with hazardous live parts	No such components.	N/A
12.4	Drawers (pull test 50 N, 10 s)	No such components.	N/A
12.5	Antenna coaxial sockets providing isolation	No such components.	N/A
12.6	Telescoping or rod antennas construction	No such components.	N/A
12.6.1	Telescoping or rod antennas securement	No such components.	N/A

<b>13</b>	<b>Clearances and creepage distances</b>		N/A
13.1	Clearances in accordance with 13.3	No hazardous live parts inside EUT, no separation required.	N/A
	Creepage distances in accordance with 13.4		N/A
13.2	Determination of working voltage	3.0Vdc	N/A
13.3	Clearances	See appendix table.	N/A
13.3.1	General	See appendix table.	N/A
13.3.2	Circuits conductively connected to the mains comply with table 8 and, where applicable, table 9..... :	Not connected to mains.	N/A
13.3.3	Circuits not conductively connected to the mains comply with table 10		N/A
13.3.4	Measurement of transient voltages	Not connected to mains.	N/A
13.4	Creepage distances		N/A
	Creepage distances greater than table 11 minimum values		N/A
13.5	Printed boards	Not connected to mains.	N/A
13.5.1	Clearances and creepage distances between conductors on printed circuit boards, one of which may be conductively connected to the mains, as in fig. 10		N/A
13.5.2	Type B coated printed circuit boards complying with IEC 60664-3 (basic insulation only)		N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
13.6	Conductive parts along uncemented joints clearances and creepage distances comply with 13.3 and 13.4	No such components.	N/A
	Conductive parts along reliably cemented joints comply with 8.8		N/A
	Temperature cycle test and dielectric strength test		N/A
	500V test for transformers, magnetic coupler and similar devices, if insulation is relied upon for safety		N/A
13.7	Enclosed, enveloped or hermetically sealed parts not conductively connected to the mains, clearances and creepage distances as in table 12		N/A
13.8	Parts filled with insulating compound, meeting the requirements of 8.8		N/A

<b>14</b>	<b>Components</b>		<b>P</b>
14.1	Resistors	No such components.	N/A
	a) Resistors between hazardous live parts and accessible metal parts	No such components.	N/A
	b) Resistors, other than between hazardous live parts and accessible parts	No such components.	N/A
	Resistors separately approved .....	Yes / No	N/A
14.2	Capacitors and RC units	No such components.	N/A
	Capacitors separately approved :	Yes / No	N/A
14.2.1	Y capacitors tested to IEC 60384-14:2005 .....	Y1 Y2	N/A
14.2.2	X capacitors tested to IEC 60384-14:2005 .....	X1 X2	N/A
14.2.3	Capacitors operating at mains frequency but not connected to the mains: tests for X2 .....	No such components.	N/A
14.2.5	Capacitors with volume exceeding 1750 mm <sup>3</sup> , where short-circuit current exceeds 0,2 A: compliance with IEC 60384-1, 4.38 category B or better .....	No such components.	N/A
	Capacitors with volume exceeding 1750 mm <sup>3</sup> , mounted closer to a potential ignition source than table 5 permits: compliance with IEC 60384-1, 4.38 category B or better .....	No such components.	N/A
	Shielded by a barrier acc. to 20.1.4/ table 21 or metal :	Yes / No	N/A
14.3	Inductors and windings	No such components.	N/A
	Comply with IEC 61558-1, IEC 61558-2 (as relevant) and clause 20.1.4	No such components.	N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
14.3.1	Transformers and inductors marked with manufacturer's name and type .....	No such components.	N/A
	Transformers and inductors separately approved :	Yes / No	N/A
14.3.2	General	No such components.	N/A
	Insulation material complies with clause 20.1.4	No such components.	N/A
14.3.3	Constructional requirements	No such components.	N/A
14.3.3.1	Clearances and creepage distances comply with clause 13	No such components.	N/A
14.3.3.2	Transformers meet the constructional requirements	No such components.	N/A
14.3.4	Separation between windings	No such components.	N/A
14.3.4.1	Class II transformers have adequate separation between hazardous live parts and accessible parts (double or reinforced insulation) .....	No such components.	N/A
	Coil formers and partition walls > 0,4 mm	No such components.	N/A
14.3.4.2	Class I transformers, with basic insulation and protective screening only if all 7 conditions of 14.3.4.2 are met	No such components.	N/A
14.3.4.3	Separating transformers with at least basic insulation	No such components.	N/A
14.3.5	Insulation between HAZARDOUS LIVE parts and ACCESSIBLE parts	No such components.	N/A
14.3.5.1	Class II transformers have adequate insulation between hazardous live parts and accessible parts (double or reinforced insulation)	No such components.	N/A
	Coil formers and partition walls > 0,4 mm	No such components.	N/A
14.3.5.2	Class I transformers have adequate insulation between hazardous live parts and accessible conductive parts or those conductive parts or protective screens connected to a protective earth terminal	No such components.	N/A
	Winding wires connected to protective earth have adequate current-carrying capacity	No such components.	N/A
14.4	High voltage components	No such components.	N/A
	High-voltage components and assemblies: U > 4 kV (peak) separately approved	No such components.	N/A
	Component meets category V-1 of IEC 60695-11-10	No such components.	N/A
14.4.1	High voltage transformers and multipliers tested as part of the submission	No such components.	N/A
14.4.2	High voltage assemblies and other parts tested as part of the submission	No such components.	N/A
14.5	Protective devices	No such components.	N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Protective devices used within their ratings	No such components.	N/A
	External clearances and creepage distances meet requirement of clause 13 for the voltage across the device when opened	No such components.	N/A
14.5.1.1	a) Thermal cut-outs separately approved	No such components.	N/A
	b) Thermal cut-outs tested as part of the submission	No such components.	N/A
14.5.1.2	a) Thermal links separately approved	No such components.	N/A
	b) Thermal links tested as part of the submission	No such components.	N/A
14.5.1.3	Thermal devices re-settable by soldering	No such components.	N/A
14.5.2.1	Fuse-links in the mains circuit according to IEC 60127	No such components.	N/A
14.5.2.2	Correct marking of fuse-links adjacent to holder ... :	No such components.	N/A
14.5.2.3	Not possible to connect fuses in parallel ..... :	No such components.	N/A
14.5.2.4	Not possible to touch hazardous live parts when replacing fuse-links without the use of a tool ..... :	No such components.	N/A
14.5.3	PTC thermistors comply with IEC 60730-1:2007	No such components.	N/A
	PTC devices (15 W) category V-1 or better	No such components.	N/A
14.5.4	Circuit protectors have adequate breaking capacity and their position is correctly marked	No such components.	N/A
14.6	Switches	No such components.	N/A
14.6.1 a)	Separate testing to IEC 61058-1 including: - 10 000 operations - Normal pollution suitability - <b>Make and break speed independent of speed of actuation</b> V-0 compliance with annex G, G.1.1	No such components.	N/A
14.6.1 b)	Tested in the apparatus:	No such components.	N/A
	Switch controlling > 0.2A with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.3, 14.6.4 and V-0 in annex G, G.1.1	No such components.	N/A
	Switch controlling > 0.2A with open contact voltage < 35 V (peak)/24 V dc complying with 14.6.3 and V-0 in annex G, G.1.1	No such components.	N/A
	Switch controlling < 0.2A with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.4 and V-0 in annex G, G.1.1	No such components.	N/A
14.6.2	Switch tested to 14.6.1 b) constructed to IEC 61058-1 subclause 13.1 and has making/breaking action independent of speed of actuation	No such components.	N/A



<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
14.6.3	Switch tested to 14.6.1 b) compliant with IEC 61058-1 subclause 16.2.2 d) and m) not attaining excessive temperatures in use	No such components.	N/A
14.6.4	Switch tested to 14.6.1 b) has adequate dielectric strength	No such components.	N/A
14.6.5	Mains switch controlling mains socket outlets additional tests to IEC 61058-1	No such components.	N/A
	Socket outlet current marking correct	No such components.	N/A
14.7	Safety interlocks	No such components.	N/A
	Safety interlocks to 2.8 of IEC 60950-1	No such components.	N/A
14.8	Voltage setting devices and the like	No such components.	N/A
	Voltage setting device not likely to be changed accidentally	No such components.	N/A
14.9	Motors	No such components.	N/A
14.9.1	Endurance test on motors	No such components.	N/A
	Motor start test	No such components.	N/A
	Dielectric strength test	No such components.	N/A
14.9.2	Not adversely affected by oil or grease etc.	No such components.	N/A
14.9.3	Protection against moving parts	No such components.	N/A
14.9.4	Motors with phase-shifting capacitors, three-phase motors and series motors meet clause. B.8, B.9 and B.10 of IEC 60950-1, Annex B	No such components.	N/A
14.10	Batteries		P
14.10.1	Batteries mounted with no risk of accumulation of flammable gases	No risk of flammable gases.	P
14.10.2	No possibility of recharging non-rechargeable batteries	Special battery compartment only fits for model LR03 non-rechargeable battery	P
14.10.3	Recharging currents and times within manufacturers limits		N/A
	Lithium batteries discharge and reverse currents within the manufacturers limits		P
14.10.4	Battery mould stress relief	Test with appliance.	P
14.10.5	Battery drop test		P
14.11	Optocouplers	No such components.	N/A
	a) Comply with 13.6 (jointed insulation) and N.2.1	No such components.	N/A
	b) Comply with IEC 60747-5-5:2007	No such components.	N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Alternative to a) and b) optocoupler comply with 13.8	No such components.	N/A
	a) Comply with 13.6 (jointed insulation) and N.2.1	No such components.	N/A
14.12	Surge suppression varistors	No such components.	N/A
	Comply with IEC 61051-2	No such components.	N/A
	Not connected between mains and accessible parts except for earthed parts of permanently connected apparatus	No such components.	N/A
	Complies with the current pulse, fire hazard and thermal stress requirements of 14.12	No such components.	N/A

<b>20</b>	<b>Resistance to fire</b>		<b>P</b>
20.1	Electrical components and mechanical parts		P
	a) Exemption for components contained in an enclosure of material V-0 to IEC 60695-11-10 with openings not exceeding 1 mm in width	UL approval V-0 plastic material.	P
	b) Exemption for small components as defined in 20.1		N/A
20.1.1	Electrical components meet the requirements of Clause 14 or 20.1.4		P
20.1.2	Insulation of internal wiring working at voltages > 4 kV or leaving an internal fire enclosure, or located within the areas mentioned in Table 21, not contributing to the spread of fire	3Vd.c. <15 W	N/A
20.1.3	Material of printed circuit boards on which the available power exceeds 15 W at a voltage between 50 V and 400 V (peak) a.c. or d.c. meets V-1 or better to IEC 60695-11-10, unless used in a fire enclosure	3Vd.c. <15 W	N/A
	Material of printed circuit boards on which the available power exceeds 15 W at a voltage >400 V (peak) a.c. or d.c. meets V-0 to IEC 60695-11-10.	3Vd.c. <15 W	N/A
20.1.4	Components and parts not covered by 20.1.1, 20.1.2 and 20.1.3 (other than fire enclosures) mounted nearer to a potential ignition source than the distances in Table 21 comply with the relevant flammability category in Table 21	See List of Critical Components on page 48	P
	Components and parts as above but shielded from a potential ignition source, with the barrier area in accordance with Table 21 and fig. 13		N/A
	Apparatus with voltages >4kV under normal operating conditions and distances to the enclosure exceed those specified Table 21, flammability classification HB40 or better is required for the enclosure	3Vd.c.	N/A

<b>Annex EN 60065</b>			
Clause	Requirement + Test	Result - Remark	Verdict
20.2	Fire enclosure	3Vd.c.	N/A
20.2.1	Potential ignition sources with open circuit voltage > 4 kV (peak) a.c. or d.c. contained in a fire enclosure to V-1	3Vd.c.	N/A
20.2.2	Internal fire enclosures with openings not exceeding 1 mm in width and with openings for wires completely filled	No internal fire enclosure.	N/A
20.2.3	Requirements of 20.2.1 and 20.2.2 met by an internal fire enclosure	No internal fire enclosure.	N/A

Annex EN 60065						
Clause	Requirement + Test				Result - Remark	Verdict
7.1	TABLE: temperature rise measurements					P
	Power consumption in the OFF/Stand-by				--	--
	Position of the functional switch (W) .....:				--	--
I rated (A)	Un (V)	Hz	I (mA)	P (W)	Operating Condition / Status	
1	3Vdc	--	5	0.015	Detecting smoke.	
Note: the measured current is less than the rated current x 1.1 obviously.						
	Loudspeaker impedance (Ω) .....:				--	—
	Several loudspeaker systems .....:				--	
	Marking of loudspeaker terminals .....:				--	
Temperature Rise dT of Part				dT (K)		Limit max dT (K)
Test Condition No.				3.0Vd.c.		--
Plastic Enclosure, External				2.0		60
PCB near U4				5.4		85
PCB near U3				4.0		85
Battery				2.8		40
Ambient				21.9 °C		—
Winding temperature rise measurements						
Ambient temperature t1 (°C) .....:				--		—
Ambient temperature t2 (°C) .....:				--		—
Remark: Max. declared operation ambient temperature: 30 °C.						
* PCB temperature limit used.						

11.2		TABLE: Fault Conditions			P
No.	Component	Fault	dT (K) / Component	Test conditions, test duration, test result	
1.	Battery	s-c	40.6K	EUT shut down. No damage, no hazards. Test voltage: 3Vd.c. Input current: 0.005A → 1.2A (last 5mins)→0 (exhausted) Test time: 10mins	
2.	Q4	s-c	--	No damage, no hazards, recoverable.	
Supplementary information: s-c=short circuit					

<b>Annex EN 60950</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>3</b>	<b>WIRING, CONNECTIONS AND SUPPLY</b>		<b>P</b>
<b>3.1</b>	<b>General</b>		<b>P</b>
3.1.1	Current rating and overcurrent protection	Internal wires are UL recognized wiring which is PVC insulated, rated VW-1 or FT-1, and having gauge suitable for current intended to be carried.	<b>P</b>
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges which could damage the insulation and cause hazard.	<b>P</b>
3.1.3	Securing of internal wiring	Internal wires are routed and secured so that adequate insulations are maintained. The wires are secured by hooking-in, solder pins, crimp terminal, glue, so that a loosening of the terminal connection is unlikely.	<b>P</b>
3.1.4	Insulation of conductors	The insulation of the individual conductors suitable for the application and the working voltage. For the insulation material see 3.1.1.	<b>P</b>
3.1.5	Beads and ceramic insulators	Not used.	<b>N/A</b>
3.1.6	Screws for electrical contact pressure	No such screws provided.	<b>N/A</b>
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	<b>N/A</b>
3.1.8	Self-tapping and spaced thread screws	Not used.	<b>N/A</b>
3.1.9	Termination of conductors	All conductors are reliably secured.	<b>P</b>
	10 N pull test		<b>P</b>
3.1.10	Sleeving on wiring	No sleeve used.	<b>N/A</b>
<b>3.2</b>	<b>Connection to a mains supply</b>		<b>N/A</b>
3.2.1	Means of connection	Not connected to mains.	<b>N/A</b>
3.2.1.1	Connection to an a.c. mains supply		<b>N/A</b>
3.2.1.2	Connection to a d.c. mains supply		<b>N/A</b>
3.2.2	Multiple supply connections		<b>N/A</b>

<b>Annex EN 60950</b>			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type .....		—
	Rated current (A), cross-sectional area (mm <sup>2</sup> ), AWG .....		—
3.2.5.2	DC power supply cords	No cords. Battery 3Vd.c. supply.	N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N) .....		—
	Longitudinal displacement (mm) .....		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) :		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A
<b>3.3</b>	<b>Wiring terminals for connection of external conductors</b>		N/A
3.3.1	Wiring terminals	No external conductors.	N/A
3.3.2	Connection of non-detachable power supply cords	No cords	N/A
3.3.3	Screw terminals	No terminals.	N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm <sup>2</sup> ).....		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A
<b>3.4</b>	<b>Disconnection from the mains supply</b>		N/A
3.4.1	General requirement	Not connect to mains.	N/A

<b>Annex EN 60950</b>			
Clause	Requirement + Test	Result - Remark	Verdict
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

<b>4.7</b>	<b>Resistance to fire</b>		<b>P</b>
4.7.1	Reducing the risk of ignition and spread of flame	No excessive temperatures. No easily burning materials employed. Fire enclosure provided.	P
	Method 1, selection and application of components wiring and materials		P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	Fire enclosure provided.	P
4.7.2.1	Parts requiring a fire enclosure	Insulated wiring.	P
4.7.2.2	Parts not requiring a fire enclosure	No such parts.	N/A
4.7.3	Materials		P
4.7.3.1	General	See below	P
4.7.3.2	Materials for fire enclosures	V-0 fire enclosure used.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	PCB rated V-0 or better. Internal components except small parts are V-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filters provided.	N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N/A