Test Report

Prepared For :	Shenzhen Yuanhang Electronic Co.,Ltd 2F, No.389, Jihua Road Bantian Street Longgang District Shenzhen China
Trade Mark:	YUANHANG
Product Name:	Smoke Detector
Model :	YH-1068, YH-1058, YH-1078, YH-1088, YH-1098, YH-1668
Prepared By :	Shenzhen HTT Technology Co., Ltd. 7F, Guangfu Building, Baoyuan Road, Xixiang, Baoan District, Shenzhen, Guangdong, China
Test Date:	Nov.28,2014- Dec.03,2014
Date of Report :	Dec.03,2014
Report No.:	HTT141201010LR

TEST REPORT **EN 14604:2005** **Smoke alarm devices**	
Testing Laboratory Name .....:	Shenzhen HTT Technology Co., Ltd.
Address .....:	7F, Guangfu Building, Baoyuan Road, Xixiang, Baoan District, Shenzhen, Guangdong, China
Testing location .....:	Shenzhen HTT Technology Co., Ltd.
Applicant's Name .....:	Shenzhen Yuanhang Electronic Co.,Ltd
Address .....:	2F, No.389, Jihua Road Bantian Street Longgang District Shenzhen China
Manufacturer ....:	Shenzhen Yuanhang Electronic Co.,Ltd
Address .... :	2F, No.389, Jihua Road Bantian Street Longgang District Shenzhen China
Standard.....:	EN 14604:2005
Test Result .....:	Compliance with EN14604:2005
Procedure deviation .....:	N/A
Non-standard test method .....:	N/A

Type of test object .....:	Smoke Detector
Trademark .....:	**YUANHANG**
Model/type reference	YH-1068
Rating .....:	DC12V
Test item particulars :	
Equipment mobility .....:	fixed equipment
Operation condition .....:	Continuous
Class of equipment .....:	Class III
Protection against ingress of water.	IP20
Test case does not apply to the test object	N (.A.)
Test object does meet the requirement	P(ass)
Test object does not meet the requirement	F(ail)

Name and address of the testing laboratory: **Shenzhen HTT Technology Co., Ltd.**

7F, Guangfu Building, Baoyuan Road, Xixiang, Baoan District, Shenzhen, Guangdong, China

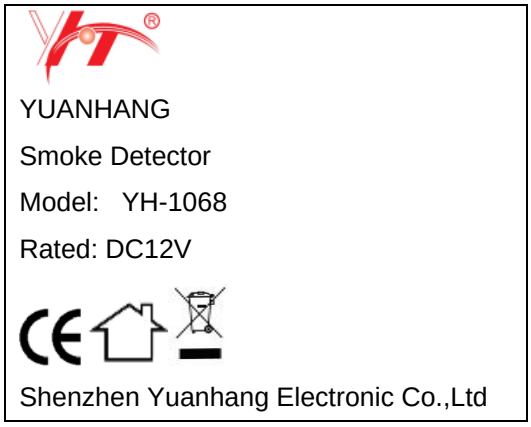
Test by : _____ Dec.03,2014
Signature Date

Review by : _____ Dec.03,2014
Signature Date

Approved by : _____ Dec.03,2014
Signature Date

General remarks:	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory.	Attached with: A.Equipment list B.photo documentation

Artwork of Marking Label



4	General requirements		
4.1	Compliance	the smoke alarm shall meet the requirements of this clause	P
4.2	Individual alarm indicator (optional)	LED indicator	P
4.3	Mains-on indicator	Battery LED indicator	P
4.4	Connection of external ancillary devices	No external ancillary devices	N/A
4.5	Means of calibration		P
4.6	User replaceable components		
4.6.1	Except for batteries or fuses, a smoke alarm shall have no user replaceable or serviceable components.	Compliance	P
4.7	Normal power source		
	The power source of the smoke alarm may be internal or external to the smoke alarm housing.	Battery only	P
4.8	Standby power source		
4.8.1	For smoke alarms intended for connection to an external power supply, for which an integral back-up/standby power facility is provided, the following requirements shall apply:		N
	a) primary cell battery back-up: the back-up power supply shall be capable of meeting therequirements of 4.15;	There is no external power supply	N
	b) rechargeable back-up power sources: the back-up power source shall be capable of supplyingthe quiescent load of the smoke alarm for a minimum period of 72 h followed by an alarm signalas specified in 5.17 for at least 4 min in the event of fire, or in the absence of a fire, a faultwarning for at least 24 h.	Ditto.	N
4.8.2	Monitoring of back-up power source		N
	The back-up power source shall be monitored by the smoke alarm for faults. These faults shallinclude low back-up, open circuit and short circuit failure of the back-up (see 5.23).		N
4.9	Electrical safety requirements		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
4.10	Routine test facility		P
4.11	Terminals for external conductors		N
4.12	Smoke alarm signals		P
4.13	Battery removal indication	LED indication	P

4.14	Battery connections	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
4.15	Battery capacity	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 weekly10 s test,	P
4.16	Protection against the ingress of foreign bodies		
	The smoke alarm shall be so designed that a sphere of diameter (1,3 ± 0,05) mm cannot pass into the sensor chamber(s).	1.3mm	P
4.17	Additional requirements for software controlled smoke alarms		P
4.17.1	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
4.17.2	Software documentation		P
4.17.2.2	The manufacturer shall have available detailed design documentation, which only needs tobe provided if required by the testing authority. It shall comprise at least the following:		P
4.17.3	Software design In order to ensure the reliability of the smoke alarm, the following requirements for software designshall 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
4.17.4	The storage of programs and data		P
	a mixture ,the composition of which is described in table4 for 90min or until the alarm activates if less than 90min		
4.18	Inter-connectable smoke alarms		N
4.19	Marking and data		P
4.19.1	Smoke alarm marking		
	a) the number and date of this document,		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;		P
	f) smoke alarms incorporating non-replaceable batteries: the warning "WARNING — Battery not replaceable — See instruction manual" which shall be visible during normal use.		P
4.19.2	Packaging marking		P
	The point-of-sale carton, in which a smoke alarm employing a radionuclide is packaged, shall bepermanently marked on the exterior with the trefoil symbol, name of radionuclide, and activity.		P
4.19.3	Data		P
	Information supplied on or with smoke alarms shall include instructions on siting, installation and maintenance.		P
5	Test		
5.1.1	Atmospheric conditions for tests	temperature :-10 °C to 50°C; relative humidity ：≤95%RH air pressure:86 kPa to 106 kPa.	P
5.1.2	Operating conditions for tests		P
	The sample apparatus shall be prepared and mounted when applicable ,in accordance with the manufacture		P
5.1.3	Mounting arrangements		P
5.1.4	Tolerances	5%	P
5.1.5	Measurement of response threshold value	$0{,}05 \leq \frac{\Delta y}{\Delta t} \leq 0{,}3 \ \ min^{-1}$	P
5.1.6	Provision for tests		
	20 specimens;		
5.1.7	Test schedule		P
5.2	Repeatability		

5.2.1	Test procedure	The ratio of the response threshold values ymax:ymin or mmax:mmin shall be not greater than 1,6.	P
5.2.3	Requirements		
5.3	Directional dependence		P
5.4	Initial sensitivity	See attachment 3	P
5.5	Air movement		P
5.6	Dazzling		P
5.7	Dry heat	To demonstrate the ability of the smoke alarm to function correctly at high ambient temperatures, which may occur for short periods in the service environment.	P
5.8	Cold (operational)	To demonstrate the ability of the smoke alarm to function correctly at low ambient temperatures, which may occur for short periods in the service environment.	N
5.9	Damp heat (operational)		P
5.10	Sulphur dioxide (SO2) corrosion		P
	To demonstrate the ability of the smoke alarm to withstand the corrosive effects of sulphur dioxide asan atmospheric pollutan		P
	The test apparatus and procedure shall be as described in EN 60068-2-42:2003, except that the conditioning shall be as described below.		P
5.10.2.2	State of the specimen during conditioning		P
5.10.2.3	Conditioning		P
	The following conditioning shall be applied: Temperature(25 ± 2) °C; Relative humidity(93 ± 3) %; SO2 concentration(25 ± 5) ppm (by volume) i.e. (25 ± 5) x 10-6; Duration 4 days.	26ppm	P
5.11	Impact	1.9J （after tested the enclosure no damage）	P
5.12	Vibration (operational)		N/A
5.13	Vibration (endurance)	To demonstrate the ability of the smoke alarm to withstand the long term effects of vibration at levels appropriate to the shipping, installation and service environment.	P

5.13.2.3	Final measurements	After the conditioning the response threshold value shall be measured as described in 5.1.5.	P
5.14	Electromagnetic Compatibility (EMC), immunity tests (operational)		P
5.15	Fire sensitivity	m = 0,02 dB m-1.	P
5.16	Battery fault warning	smoke alarm will give an audible fault warning before an increase in the internal resistance or decrease in the terminal voltage of the battery prevents correct operation.	P
5.17	Sound output	the smoke alarm is capable of providing an adequate sound output.	P
5.18	Sounder durability	the smoke alarm's sounder to operate as intended after prolonged operation.	P
5.19	Inter-connectable smoke alarms		P
5.20	Alarm silence facility (optional)		N
5.21	Variation in supply voltage		P
5.22	Battery reversal		
	To demonstrate the ability of the smoke alarm to function properly after being misconnected with respect to polarity.		P
5.23	Back-up power source	the back-up power source is correctly monitored.	P
5.24	Electrical safety – assessment and testing to determine the adequacy ofpersonal protection against hazardous currents passing through the human body(electric shock), excessive temperature and the start and spread of fire		P
5.24.1	Marking	Comply marked in accordance with EN 60065:2002, Clause 5	P
5.24.2	Heating under normal operating conditions	Comply the requirements of EN 60065:2002, Clause 7.	P
5.24.3	Shock hazard under normal operating conditions	Comply the requirements of EN 60065:2002	P
5.24.4	Insulation requirements	Comply the requirements of EN 60065:2002	P
5.24.5	Fault conditions	Comply the requirements of EN 60065:2002, Clause 11.	P
5.24.6	Mechanical strength	Comply the requirements of EN 60065:2002	P

5.24.7	Clearances and creepage distances	Comply the requirements of EN 60065:2002	P
5.24.8	Components	Comply the requirements of EN 60065:2002	P
5.24.9	Protection against the start and spread of fire	Ditto.	P
5.24.10	Parts connected to the supply mains	comply with the requirements of Clause 13 of EN 60065:2002	P
5.24.11	Wiring connections	Comply with the requirements of 3.1, 3.2, 3.3 and 3.4 of EN 60950-1:20012.	P
5.24.12	Resistance to the effects of heat and fire		P

ANNEX AA: Equipment list

Code	Name	Model/Type	S/N	Calibrated date	Next Calibration Date	Manufacture
HTT-001	Digital Multimeter	34401A	MY47043456	2014.02.20	2015.02.19	agilent
HTT -004	Push/pull gauge	NK-500	2Q10060932	2014.02.20	2015.02.19	
HTT -005	Electronic weight	DSI-861	198692	2014.02.20	2015.02.19	shangdeli

HTT -006	Insulation resistance tester	CS2676CX	1107032-009	2014.02.20	2015.02.19	changshen
HTT -007	Earthing resistance tester	YD2668-4B	4B-2307	2014.02.20	2015.02.19	Yangzi
HTT -008	HI-pot/Insulation tester	CS2672C	1108006-002	2014.02.20	2015.02.19	changshen
HTT -010	AC Voltage Regulator	TDGC2J		2014.02.20	2015.02.19	SAKO
HTT -013	AC power source	HPA-3110	3513	2014.02.20	2015.02.19	Henqiang
HTT -014	Temperature/Humidity chamber	SDJ-80L	SDJ-80J	2014.02.20	2015.02.19	Shenzhen hongjian
HTT -015	Electric oven	HK45AS	F11011008	2014.02.20	2015.02.19	Guangzhou KENTON
HTT -017	AC digital power meter	PF9901	YG100731N11070075	2014.02.20	2015.02.19	Yuanfang
HTT -019	DC electronic load	IT8512	002002506670001002	2014.02.20	2015.02.19	ITECH
HTT -022	Leakage current tester	228	10-866030	2014.02.20	2015.02.19	simpson
HTT -023	Oscilloscope	TDS1012C-SC	C013300	2014.02.21	2015.02.20	tektronix
HTT -024	Tape measure	DK-2041		2014.02.23	2015.02.22	Proskit
HTT -025	Stop watch	TA-228		2014.02.21	2015.02.20	KTJ
HTT -026	Data acquisition/switch unit	34970A	MY44057668	2014.02.24	2015.02.23	Agilent
HTT -027	Temperature/humidity meter	VC230		2014.02.21	2015.02.20	ViCTOR
HTT -028	Torque drive	3RTD	435850B	2014.05.15	2015.05.14	TOHNICHI
HTT -030	Impact hammer	ZLT-CJ1	C011207	2014.02.21	2015.02.20	Guangzhou zhilitong
HTT -031	Inclined plane	ZLT-WD1	W011201	2014.02.20	2015.02.19	Guangzhou zhilitong
HTT -033	Test finger	ZLT-I02	I021203	2014.02.23	2015.02.22	Guangzhou zhilitong
HTT -034	Test pin	ZLT-I09	I091201	2014.02.23	2015.02.22	Guangzhou zhilitong
HTT -038	Test apparatus of the mains plug	ZLT-LJ2	LJ011202	2014.02.20	2015.02.19	Guangzhou zhilitong
HTT -039	Ball pressure apparatus	ZLT-QY1	Q011202	2014.02.21	2015.02.20	Guangzhou zhilitong
HTT -042	Caliper rule	CD-6 " CSX	500-196-20	2014.07.05	2015.07.04	MITUTOYO

ANNEX BB: Photo-documentation

Photo 1: front view

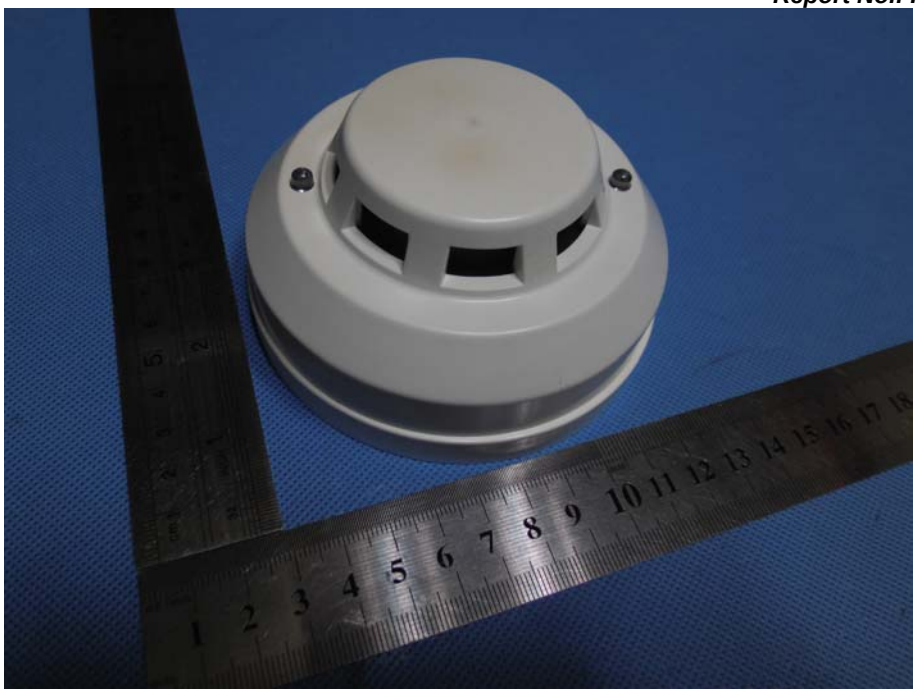


Photo 2: internal view

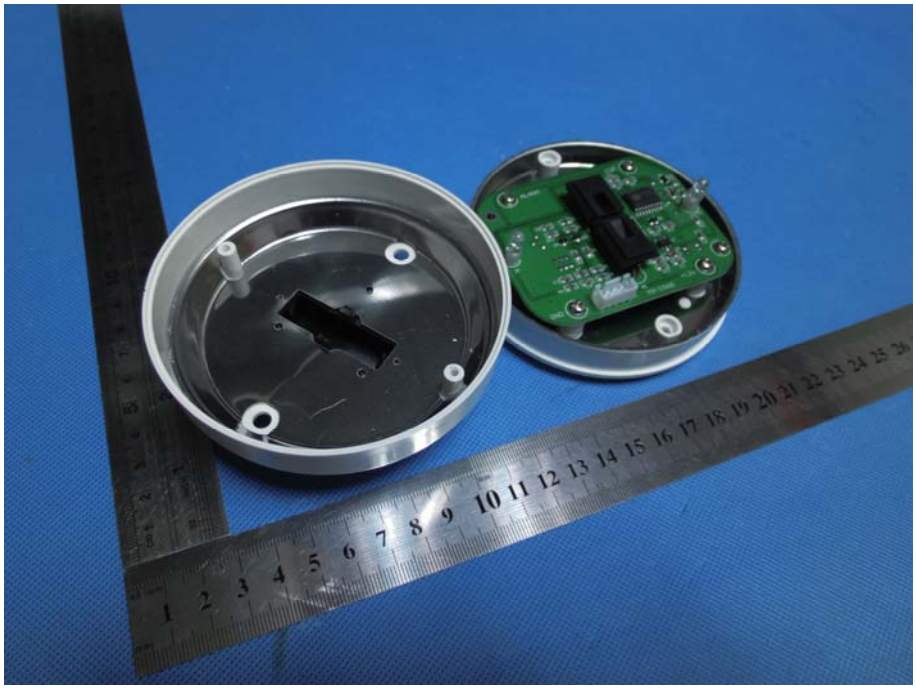
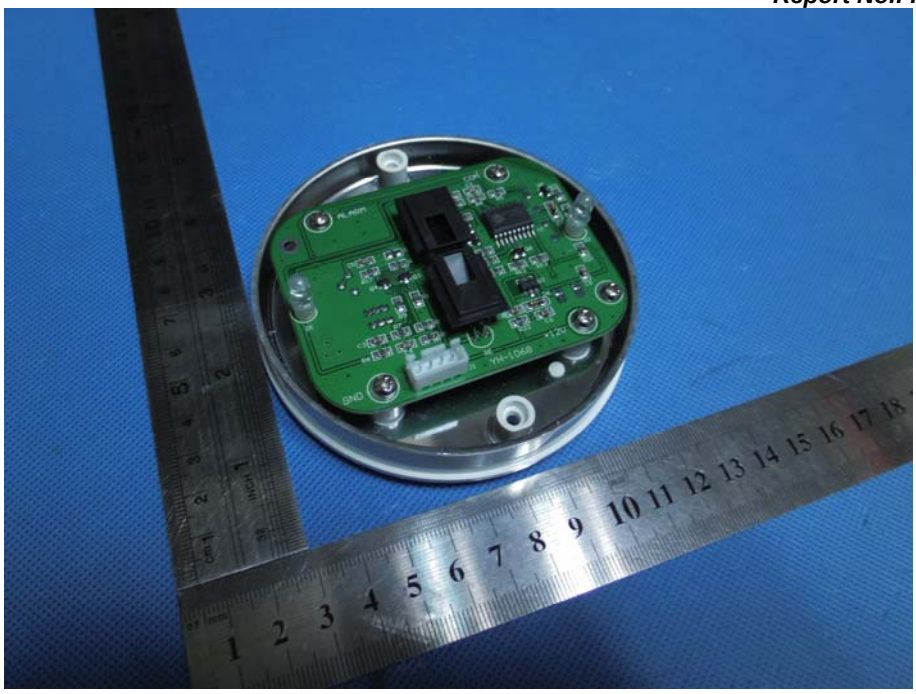


Photo 3: PCB view



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