

			Test Report issued under the responsibility of UkrTEST of Ukrmetrteststandart
<div style="border: 1px solid black; padding: 2px; text-align: center;"> 2H635 ДСТУ ISO/IEC 17025 </div>			

<p>TEST REPORT EN 14604:2005 SMOKE ALARM DEVICES</p>	
Report Reference No.....:	1595-1-2016
Date of issue.....:	2016-12-29
Total number of pages.....:	26
Testing Laboratory.....:	UkrTEST of Ukrmetrteststandart
Address.....:	4, Metrologichna Str., 03143, Kyiv, Ukraine
Applicant's name:	RPE "Ajax"
Address.....:	"Kyiv, S.Skliarenka str., 5 ", Ukraine
Test specification:	
Standard:	EN 14604:2005/AC:2008
Test procedure:	UkrTEST
Test Report Form No.....:	T.R.F.2.6.2 - EN 14604
Test Report Form(s) Originator:	UkrTEST of Ukrmetrteststandart
Master TRF.....:	Dated 2016-10
Test item description:	Smoke alarm device
Trade Mark:	AJAX
Manufacturer.....:	"AJAX", Ukraine
Model/Type reference.....:	Ajax FireProtect
Ratings.....:	2 battery type CR2
	1 battery CR2032

Testing procedure and testing location:

Tested by (name + signature)..... :

V. Zaika



Approved by (+ signature) :

A. Gindikin



Testing location/ address : 4, Metrologichna Str., 03143, Kiev, Ukraine

Summary of testing:

Tests performed (name of test and test clause):

Smoke alarm devices was tested on conformity with requirements of EN 14604:2005/AC:2008

Testing location:

UkrTEST of Ukrmetrteststandart
4, Metrologichna Str.,
03143, Kyiv, Ukraine

Summary of compliance with National Differences: N/A

 Smoke alarm devices Ajax FireProtect comply with requirements of EN 14604:2005/AC:2008

Copy of marking plate:

Smoke alarm device Model: Ajax FireProtect

EN 14604:2005

Ukraine, Kyiv, S. Skliarenka str., 5, RPE «Ajax»

Manufactured: 12.2016

Replace by: 12.2026

3V \equiv 200mA Batteries

CR2 — 2pcs CR2032 — 1pc

Test the alarm for correct operation using the test facility, whenever the battery is replaced

Test item particulars	smoke alarm device
Classification of installation and use	stationary equipment
Supply Connection	battery powered
Possible test case verdicts:	
- 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)
Testing.....	
Date of receipt of test item	2016-11-07
Date (s) of performance of tests.....	2016-11-07 to 2016-12-27
General remarks:	
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 Issuing testing laboratory.	
"(See Enclosure #)" refers to additional information 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.	

General product information:

Smoke alarm devices are designed for used inside house and give an audible signal as indicating the existence of a fire.

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Clause	Requirement	Result-Remark	Verdict
4	General requirements		
4.1	Compliance		P
4.2	Individual alarm indicator	red color	P
4.3	Mains-on indicator		N/A
4.4	Connection of external ancillary devices		N/A
4.5	Means of calibration		P
4.6	User replaceable components	only battery	P
4.7	Normal power source		P
	The power source of the smoke alarm may be internal or external to the smoke alarm housing	internal	P
	Where the power source is internal to the smoke alarm, the source shall meet the following requirements:		
	The power source shall operate the smoke alarm for at least one year's life, including routine testing	4 years	P
	A distinctive audible fault signal shall be given before the battery is incapable of operating for alarm purposes	one short sound signal - main batteries CR2 are discharged; two short sound signals – backup CR2032 battery is discharged; three sound signals - both batteries are discharged	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	up to 3 years replaceable by user	P
4.8	Standby power source		P
4.8.1	General		N/A
	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:		
a)	primary cell battery back-up: the back-up power supply shall be capable of meeting the requirements of 4.15;		N/A
b)	rechargeable back-up power sources: the back-up power source 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
	In the absence of suitable test procedures to verify the back-up power source, data concerning the smoke alarm loads and the back-up facility characteristics shall be used to indicate that the above requirements can be met.		N/A
4.8.2	Monitoring of back-up power source		N/A
4.9	Electrical safety requirements	see cl. 5.24	P
4.10	Routine test facility	touch button	P

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Clause	Requirement	Result-Remark	Verdict
4.11	Terminals for external conductors		N/A
4.12	Smoke alarm signals		P
	In a smoke alarm which employs one or more non-fire alarm features the following operation shall be obtained:		
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		P
4.13	Battery removal indication	mechanical lock audible signal	P
4.14	Battery connections	symbols "+ / -"	P
4.15	Battery capacity		P
	Type battery.....:	CR2, lithium	-
	Voltage (V)	3,0	-
	Capacity (mA/h).....:	850	-
	Rated current (mA).....:	50	-
4.16	Protection against the ingress of foreign bodies		P
4.17	Additional requirements for software controlled smoke alarms	provided all the necessary documentation	P
4.17.1	General		P
4.17.2	Software documentation		P
4.17.3	Software design	modular structure	P
4.17.4	The storage of programs and data	10 years	P
4.18	Inter-connectable smoke alarms		N/A
4.19	Marking and data		P
4.19.1	Smoke alarm marking		P
	Each alarm shall be indelibly marked with the following:		
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;	AJAX	P
c)	the date of manufacture, or the batch number	12.2016	P
d)	the manufacturer's recommended date for replacement, subject to normal, regular maintenance;	12.2026	P
e)	marking smoke alarms incorporating user replaceable batteries	2 battery type CR2 1 battery CR2032	P
f)	marking smoke alarms incorporating non-replaceable batteries		N/A
	The indelibility of the marking		P
4.19.2	Packaging marking		N/A
4.19.3	Data	documentation is provided manufacturer	P

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Clause	Requirement	Result-Remark	Verdict
5	Tests		
5.1	General		P
5.1.1	Atmospheric conditions for tests	(20 to 25) °C; (40 to 60) %;	P
5.1.2	Operating conditions for tests		P
5.1.3	Mounting arrangements	horizontal position	P
5.1.4	Tolerances	± 5 %	P
5.1.5	Measurement of response threshold value		P
5.1.6	Provision for tests	provision 20 specimens	P
5.1.7	Test schedule		P
5.2	Repeatability		P
5.2.1	Object	one chosen arbitrarily	P
5.2.2	Test procedure		P
	Measured 1, (m), dB m ⁻¹	0,12	-
	Measured 2, (m), dB m ⁻¹	0,11	-
	Measured 3, (m), dB m ⁻¹	0,09 (m _{min})	-
	Measured 4, (m), dB m ⁻¹	0,11	-
	Measured 5, (m), dB m ⁻¹	0,13	-
	Measured 6, (m), dB m ⁻¹	0,14 (m _{max})	-
5.2.3	Requirements		P
	The ratio of the response threshold values m _{max} :m _{min} shall be not greater than 1,6	1,56	P
	The lower response threshold value m _{min} shall be not less than 0,05 dB m ⁻¹	0,09	P
5.3	Directional dependence		P
5.3.1	Object	one chosen arbitrarily	P
5.3.2	Test procedure		P
	Measured 0 °, (m), dB m ⁻¹	0,13	-
	Measured 45 °, (m), dB m ⁻¹	0,16	-
	Measured 90 °, (m), dB m ⁻¹	0,14	-
	Measured 135 °, (m), dB m ⁻¹	0,15	-
	Measured 180 °, (m), dB m ⁻¹	0,13	-
	Measured 225 °, (m), dB m ⁻¹	0,17 (m _{max})	-
	Measured 270 °, (m), dB m ⁻¹	0,16	-
	Measured 315 °, (m), dB m ⁻¹	0,12 (m _{min})	-
5.3.3	Requirements		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6	1,42	P
	The lower response threshold value m _{min} shall be not less than 0,05 dB m ⁻¹	0,12	P

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Clause	Requirement	Result-Remark	Verdict
5.4	Initial sensitivity		P
5.4.1	Object		P
5.4.2	Test procedure	orientation 225°	P
	The response threshold specimen 12, (m), dB m ⁻¹	0,17	-
	The response threshold specimen 17, (m), dB m ⁻¹	0,19	-
	The response threshold specimen 2, (m), dB m ⁻¹	0,14	-
	The response threshold specimen 5, (m), dB m ⁻¹	0,15	-
	The response threshold specimen 6, (m), dB m ⁻¹	0,15	-
	The response threshold specimen 13, (m), dB m ⁻¹	0,17	-
	The response threshold specimen 14, (m), dB m ⁻¹	0,17	-
	The response threshold specimen 3, (m), dB m ⁻¹	0,14	-
	The response threshold specimen 4, (m), dB m ⁻¹	0,14	-
	The response threshold specimen 1, (m), dB m ⁻¹	0,12	m _{min}
	The response threshold specimen 8, (m), dB m ⁻¹	0,16	-
	The response threshold specimen 19, (m), dB m ⁻¹	0,21	-
	The response threshold specimen 9, (m), dB m ⁻¹	0,16	-
	The response threshold specimen 7, (m), dB m ⁻¹	0,15	-
	The response threshold specimen 15, (m), dB m ⁻¹	0,17	-
	The response threshold specimen 20, (m), dB m ⁻¹	0,21	m _{max}
	The response threshold specimen 18, (m), dB m ⁻¹	0,19	-
	The response threshold specimen 10, (m), dB m ⁻¹	0,16	-
	The response threshold specimen 16, (m), dB m ⁻¹	0,17	-
	The response threshold specimen 11, (m), dB m ⁻¹	0,16	-
	Value of average sensitivity m, (m), dB m ⁻¹	0,16	-
5.4.3	Requirement		P
	The following relationships shall hold $m_{\max} : m \leq 1,33$	0,21 / 0,16 = 1,31	P
	The following relationships shall hold $m : m_{\min} \leq 1,5$	0,16 / 0,12 = 1,33	P

5.5	Air movement		P
5.5.1	Object	specimen 10	P
5.5.2	Test procedure		P
	The response threshold with orientation 225° and 0,2 m/s, (m), dB m ⁻¹	0,17	-
	The response threshold with orientation 315° and 0,2 m/s, (m), dB m ⁻¹	0,14	-
	The response threshold with orientation 225° and 1,0 m/s, (m), dB m ⁻¹	0,12	-
	The response threshold with orientation 315° and 1,0 m/s, (m), dB m ⁻¹	0,11	-
5.5.3	Requirements		P
	One of the following relationships shall hold:		
	$0,625 \leq (m_{(0,2)\max} + m_{(0,2)\min}) / (m_{(1,0)\max} + m_{(1,0)\min}) \leq 1,6$	1,35	P

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Clause	Requirement	Result-Remark	Verdict
5.6	Dazzling		P
5.6.1	Object	specimen 2	P
5.6.2	Test procedure		P
	with orientation 225°		-
	The response threshold before dazzling, (m), dB m ⁻¹	0,15	P
	Dazzling 10s on / 10s off	no alarm and fault signal	P
	The response threshold after dazzling, (m), dB m ⁻¹	0,10	P
	with orientation 135°		-
	The response threshold before dazzling, (m), dB m ⁻¹	0,13	P
	Dazzling 10s on / 10s off	no alarm and fault signal	P
	The response threshold after dazzling, (m), dB m ⁻¹	0,10	P
5.6.3	Requirements		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
	orientation 225°	1,5	P
	orientation 135°	1,3	P
5.7	Dry heat		P
5.7.1	Object	specimen 3	P
5.7.2	Test procedure	orientation 225°	P
	Conditioning	55°C, rate 1K min ⁻¹ , 2 h	-
	The response threshold at 55°C, (m), dB m ⁻¹:	0,17	P
5.7.3	Requirements		P
	No alarm or fault signals shall be given during the conditioning	no alarm and fault signal	P
	The ratio of the response threshold values $m_{max} : m_{min}$ shall not be greater than 1,6	0,21	P
5.8	Cold		P
5.8.1	Object	specimen 4	P
5.8.2	Test procedure	orientation 225°	P
	Conditioning	0°C, rate 1K min ⁻¹ , 2 h	-
	The response threshold at 0°C, (m), dB m ⁻¹:	0,11	P
5.8.3	Requirement		P
	No alarm or fault signals shall be given during the conditioning		P
	The ratio of the response threshold values $m_{max} : m_{min}$ shall not be greater than 1,6	1,27	P

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Clause	Requirement	Result-Remark	Verdict
5.9	Damp heat		P
5.9.1	Object	specimen 5	P
5.9.2	Test procedure	orientation 225°	P
	Conditioning	40°C, 93%, 4 days	-
	The response threshold after recovery period, (m), dB m ⁻¹	0,16	P
5.9.3	Requirements		P
	No alarm or fault signals shall be given during the conditioning		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6:	1,07	P

5.10	Sulphur dioxide (SO ₂) corrosion (endurance)		P
5.10.1	Object	specimens 6, 7	P
5.10.2	Test procedure		P
5.10.2.1	Reference	IEC 60068-2-42	P
5.10.2.2	State of the specimen during conditioning		N/A
5.10.2.3	Conditioning	25°C; 93%; 25±5 ppm; 4 days	P
5.10.2.4	Final measurements		P
	The response threshold specimen 6, (m), dB m ⁻¹ ...:	0,14	-
	The response threshold specimen 7, (m), dB m ⁻¹:	0,14	-
5.10.3	Requirements		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6		-
	specimen 6	1,07	P
	specimen 7	1,07	P

5.11	Impact (operational)		P
5.11.1	Object	specimen 8	P
5.11.2	Test procedure		P
5.11.2.1	Apparatus	according to annex E	P
5.11.2.2	State of the specimen during conditioning		P
5.11.2.3	Conditioning	1,9J; 1,5m/s ⁻¹ ; number of impacts: 1.	P
5.11.2.4	Measurements during conditioning	no alarm and fault signal	P
5.11.2.5	Final measurements		P
	The response threshold after recovery period, (m), dB m ⁻¹	0,15	P
5.11.3	Requirements		P
	The impact shall not detach the alarm from its base, or the base from the mounting	no alarm and fault signal	P
	The cover of the smoke alarm shall not unscrew or open		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6.....:	1,07	P

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Clause	Requirement	Result-Remark	Verdict
5.12	Vibration (operational)		P
5.12.1	Object	specimen 9	P
5.12.2	Test procedure		P
5.12.2.1	Reference	EN 60068-2-6	P
5.12.2.2	State of the specimen during conditioning		P
5.12.2.3	Conditioning	10 to 150Hz; 5 ms ⁻² 3 axes; 1 octave	P
5.12.2.4	Measurements during conditioning	no alarm and fault signal	P
5.12.2.5	Final measurements	no damage	P
	The response threshold , (m), dB m ⁻¹	0,15	P
5.12.3	Requirements		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6.....	0,18	P

5.13	Vibration (endurance)		P
5.13.1	Object	specimen 9	P
5.13.2	Test procedure		P
5.13.2.1	Reference	IEC 60068-2-6	P
5.13.2.2	State of the specimen during conditioning		P
5.13.2.3	Conditioning	10 to 150Hz; 10ms ⁻² 3 axes; 1 octave min ⁻¹ 20 per axis	P
5.13.2.4	Final measurements		P
	The response threshold , (m), dB m ⁻¹	0,20	P
5.13.3	Requirements		P
	The ratio of the response threshold values m _{max} :m _{min} shall not be greater than 1,6.....	1,25	P

5.14	Electromagnetic Compatibility (EMC), immunity tests (operational)		P
	The following EMC immunity tests shall be carried out, as described in EN 50130-4:1995:		
a)	mains supply voltage dips and short interruptions;		N/A
b)	electrostatic discharge		P
	Electrostatic Discharges (ESD): contact ESD – ±6 kV, air ESD – ±8 kV; 1 discharge per second	No damage, malfunction or change of status after the tests applications were observed. During the test applica- tions of contact discharges to protective metal grids (except the grid located at the side below from the logo AJAX) sometimes a short green flashing of the indicator was observed. During the test applica- tions to other surfaces response from the EUT was no observed	-

EN 14604			
Clause	Requirement	Result-Remark	Verdict
c)	radiated electromagnetic fields	see. tabl. 5.14	P
	Radiated electromagnetic fields, 80...1000 MHz: 10 V/m, AM 80%, 1kHz, step 1%, 6 s dwell time	During the test application in the range of the operating frequencies (868...868.6 MHz) the auxiliary equipment displayed the message about a loss of the connection with the EUT, after the test application the connection self restored. During the tests applications in the frequency range, except operating frequencies, no damage, malfunction or change of status were observed.	-
	Radiated electromagnetic fields, 80...1000 MHz: 10 V/m, PM, 1Hz (0,5 s ON, 0,5 s OFF), step 1%, 6 s dwell time	see above	-
d)	conducted disturbances induced by electromagnetic fields		N/A
e)	fast transient bursts		N/A
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 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		P
	- the greater of the response threshold value measured shall be designated y_{max} or m_{max} , and the lesser shall be designated y_{min} or m_{min}		P
	The response threshold specimen 10, (m), dB m ⁻¹	0,12	-
	The response threshold specimen 11, (m), dB m ⁻¹	0,13	-
2)	The acceptance criteria for the functional test after the conditioning shall be as follows:		
	The ratio of the response threshold values $m_{max} : m_{min}$ shall not be greater than 1,6		P
	specimen 10	1,45	-
	specimen 11	1,23	-

5.15	Fire sensitivity		
5.15.1	Object	specimens 17, 18, 19,20	P
5.15.2	Test procedure		P
5.15.2.1	General		P
5.15.2.2	Mounting of the specimens	orientation 225°	P
5.15.2.3	Initial conditions	see tables 5.15	P
5.15.2.4	Recording of the fire parameters and response values	1s	P

EN 14604			
Clause	Requirement	Result-Remark	Verdict
5.15.3	Requirements		P
	All four specimens shall generate an alarm signal	see tabl. 5.15	P
5.16	Battery fault warning		P
5.16.1	Object	specimen 9	P
5.16.2	Test procedure		P
5.16.2.1	Connect the alarm as shown in Figure 1 and apply the tests described in 5.16.2.2 to 5.16.2.5		P
5.16.2.2	With the series resistor R set to zero and the supply voltage V	R=0 Ohm V _R =3,0 V	P
	The response threshold, (m), dB m ⁻¹	0,16	-
5.16.2.3	With the series resistor R set to zero, decrease the supply voltage V in stages of 0,1 volts	V _E =2,6 V	P
	The response threshold, dB/m	0,18	-
5.16.2.4	With the supply voltage V set at V _R , increase the resistance of the series resistor R from zero in increments of 1 Ω at intervals of at least 1 min	R _A =1 Ohm	P
	The response threshold, (m), dB m ⁻¹	0,18	-
5.16.2.5	Repeat the procedure described in 5.16.2.4 with the supply voltage V set at:		P
	0,75 (V _R - V _E) + V _E = 2,9 V	R _B = 1 Ohm	
	0,5 (V _R - V _E) + V _E = 2,8 V	R _C = 1 Ohm	
	0,25 (V _R - V _E) + V _E = 2,7 V	R _D = 1 Ohm	
	The response threshold, (m), dB m ⁻¹	0,18	-
	The response threshold, (m), dB m ⁻¹	0,17	-
	The response threshold, (m), dB m ⁻¹	0,17	-
5.16.3	Requirements		P
	The ratio of the response thresholds shall be not less than 0,625 and not greater than 1,6	1,13	P
5.17	Sound output		P
5.17.1	Object	specimen 1, 15	P
5.17.2	Method of test	mounting board as described in EN 54-3	P
5.17.3	Requirements		P
	For battery operated alarms, the sound output shall be at least 85 dB(A) at 3 m after 1 min of alarm operation and at least 82 dB(A) after 4 min		P
	Sound level specimen 1 after 1 minute, dB(A).....:	85	P
	Sound level specimen 1 after 4 minutes, dB(A).....:	85	P
	Sound level specimen 15 after 1 minute, dB(A).....:	86	P
	Sound level specimen 15 after 4 minutes, dB(A).....:	85	P
	For mains powered alarms, the sound output shall be at least 85 dB(A) at 3 m after 4 min		N/A
	For both battery operated and main powered alarms, the maximum sound output shall be 110 dB(A) at 3 m after 1 min of alarm operation		N/A
	The maximum nominal frequency shall not exceed 3,5 kHz		P

EN 14604			
Clause	Requirement	Result-Remark	Verdict
5.18	Sounder durability		P
5.18.1	Object	specimen 15	P
5.18.2	Test procedure	4 hour; 5 min OFF / 5 min ON	P
5.18.3	Requirements		P
	For battery operated alarms, the sound output shall be at least 85 dB(A) at 3 m after 1 min of alarm operation and at least 82 dB(A) after 4 min		P
	Sound level specimen after 1 minute, dB(A).....:	86	P
	Sound level specimen after 4 minutes, dB(A).....:	85	P
5.19	Inter-connectable smoke alarms		N/A
5.20	Alarm silence facility (optional)		P
5.20.1	Object		P
	If means of temporarily disabling or desensitising a smoke alarm are provided the following shall apply:		
a)	The initiation of the alarm silence period shall require the operation of a manual control on the smoke alarm	touch-sensitive button «Test»	P
b)	Operation of the alarm silence control shall desensitise the smoke alarm for at least 5 min	10 min	P
c)	Alarm silence control shall not lead to the smoke alarm being desensitised for more than 15 min		P
5.20.2	Test requirement		P
5.20.2.1	Generate smoke in accordance with 5.1.5, in the smoke tunnel specified in Annex A	3,0 V m = 0,51	P
5.20.2.2	Repeat the test in 5.20.2.1 but with a supply voltage of VE, as determined in 5.16.2.3	2,6 V m = 0,51	P
5.20.2.3	Measure the response threshold after the operation of the alarm silence control		P
	The response threshold , (m), dB m ⁻¹:	0,17	-
5.20.2.4	Repeat the test described in 5.20.2.3 but with a supply voltage of VE, as determined in 5.16.2.3	2,6V	P
	The response threshold , (m), dB m ⁻¹:	0,19	-
5.20.2.5	Repeat the test in 5.20.2.3 but, after operating the alarm silence control, hold the control on continuously for the remainder of the test.		P
	The response threshold , (m), dB m ⁻¹:	0,17	-
5.20.3	Requirements		P
5.20.3.1	When tested in accordance with 5.20.2.1 and 5.20.2.2, the alarm shall not emit an alarm signal during the first 5 min		P
5.20.3.2	The ratio of the response thresholds to the response threshold recorded for alarm number 16 shall be not less than 0,625 and not greater than 1,6		P
	The ratio to measure 5.20.2.3	1,00	-
	The ratio to measure 5.20.2.4	1,12	-
5.20.3.3	When tested in accordance with 5.20.2.5 either:		P
a)	within 15 min shall emit an audible signal ; or		P

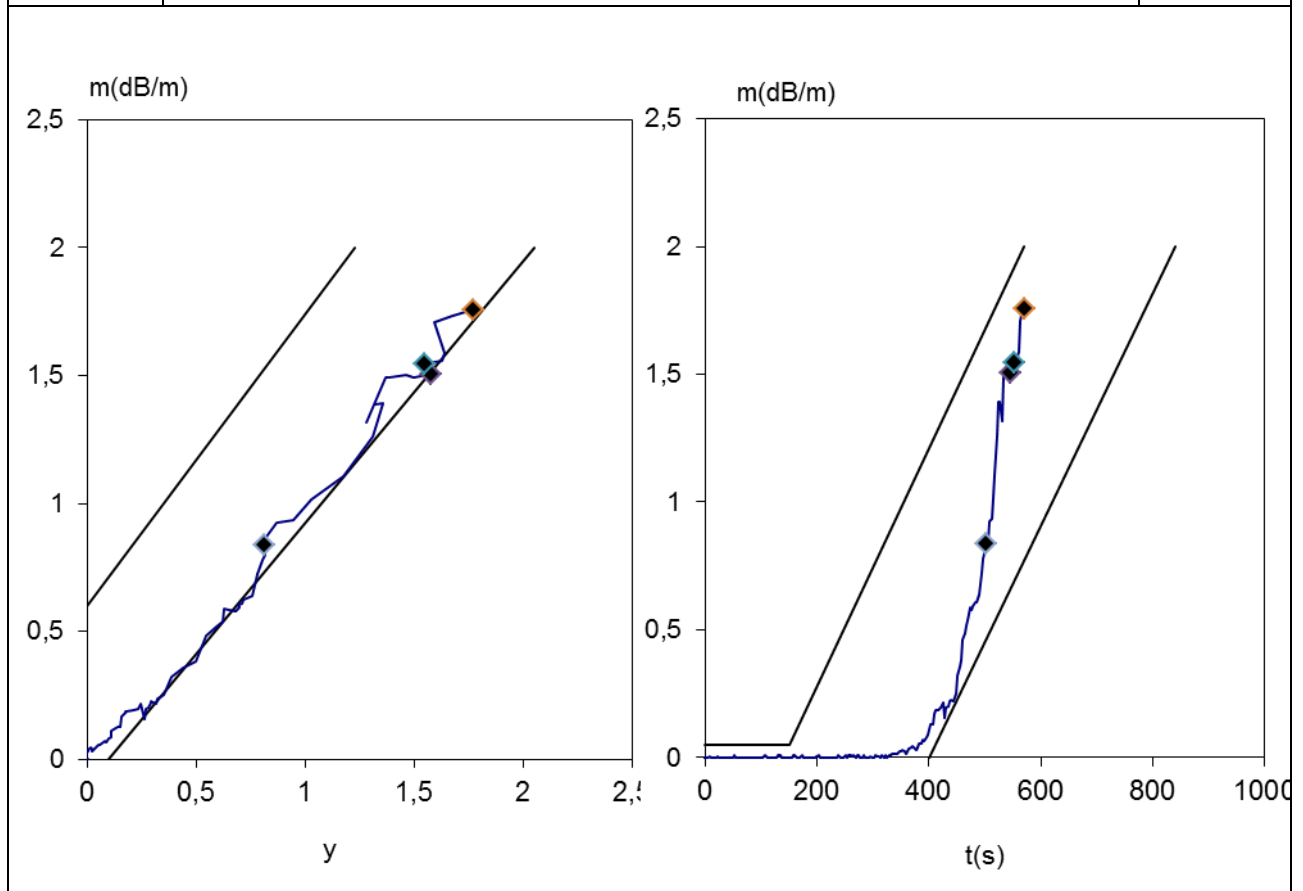
EN 14604			
Clause	Requirement	Result-Remark	Verdict
b)	the ratio of the response threshold shall be not less than 0,625 and not greater than 1,6	1,00	P
5.21	Variation in supply voltage		P
5.21.1	Object	specimen 2	P
5.21.2	Test procedure		P
	The response threshold with orientation 225° and 3,0V, (m), dB m ⁻¹:	0,14	-
	The response threshold with orientation 225° and 2,6V, (m), dB m ⁻¹:	0,15	-
5.21.3	Requirements		P
	The ratio of the response threshold values $m_{max} : m_{min}$ shall not be greater than 1,6	1,07	P
	The lower response threshold value m min shall not be less than 0,05 dB m ⁻¹		P
5.22	Battery reversal		P
5.22.1	Object	specimen 16	P
5.22.2	Test procedure		P
	The response threshold , (m), dB m ⁻¹:	0,15	-
5.22.3	Requirements		P
	The ratio of the response threshold values $m_{max} : m_{min}$ shall not be greater than 1,6	1,13	P
	When voltage V _E minus 5 % is applied, the battery fault warning shall be given	2,47 V	P
5.23	Back-up power source		N/A
5.23.1	Object		N/A
5.23.2	Test procedure		N/A
5.23.2.1	Low back-up		N/A
5.23.2.2	Open circuit		N/A
5.23.2.3	Short-circuit		N/A
5.23.3	Requirements		N/A
5.24	Electrical safety		P
5.24.1	Marking		P
5.24.2	Heating under normal operating conditions		P
	ambient T°(C).....:	22,1	-
	accessible parts T°(C).....:	23,4	-
	internal battery CR2 T°(C).....:	27,1	-
	internal battery CR2032 T°(C).....:	22,8	-
5.24.3	Shock hazard under normal operating conditions	no hazardous voltage	N/A
5.24.4	Insulation requirements	3 VDC	N/A
5.24.5	Fault conditions		P
	ambient T°(C).....:	22,6	-
	accessible parts T°(C).....:	25,8	-

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Clause	Requirement	Result-Remark	Verdict
	internal battery CR2 T°(C).....:	30,9	-
	internal battery CR2032 T°(C).....:	28,6	-
5.24.6	Mechanical strength		P
5.24.7	Clearances and creepage distances		N/A
5.24.8	Components		P
5.24.9	Protection against the start and spread of fire		N/A
5.24.10	Parts connected to the supply mains		N/A
5.24.11	Wiring connections		N/A
5.24.12	Resistance to the effects of heat and fire	enclose comply with the requirements of flammability V-0	P
5.24.13	Definitions		P
A	Annex A. Smoke tunnel for response threshold value measurements		P
B	Annex B. Test aerosol for response threshold value measurements		P
C	Annex C. Smoke measuring instruments		P
C.1	Obscuration meter		P
C.2	Measuring ionization chamber (MIC)		P
D	Annex D. Apparatus for dazzling test		P
E	Annex E. Apparatus for impact test		P
F	Annex F. Fire test room		P
G	Annex G. Smouldering pyrolysis wood fire (TF2)		P
H	Annex H. Glowing smouldering cotton fire (TF3)		P
I	Annex I. Flaming plastics (polyurethane) fire (TF4)		P
J	Annex J. Flaming liquid (n-heptane) fire (TF5)		P
K	Annex K. Information concerning the construction of the smoke tunnel		P
L	Annex L. Alarms suitable for installation in leisure accommodation vehicles		N/A
M	Annex M. Information concerning the construction of the measuring ionization chamber		P
ZA	Annex ZA. Clauses addressing the provisions of the EU Construction Products Directive (89/106/EEC)		N/A

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Clause	Requirement	Result-Remark	Verdict
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5.15	Table TF2		P
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Ambient: T=19,8°C

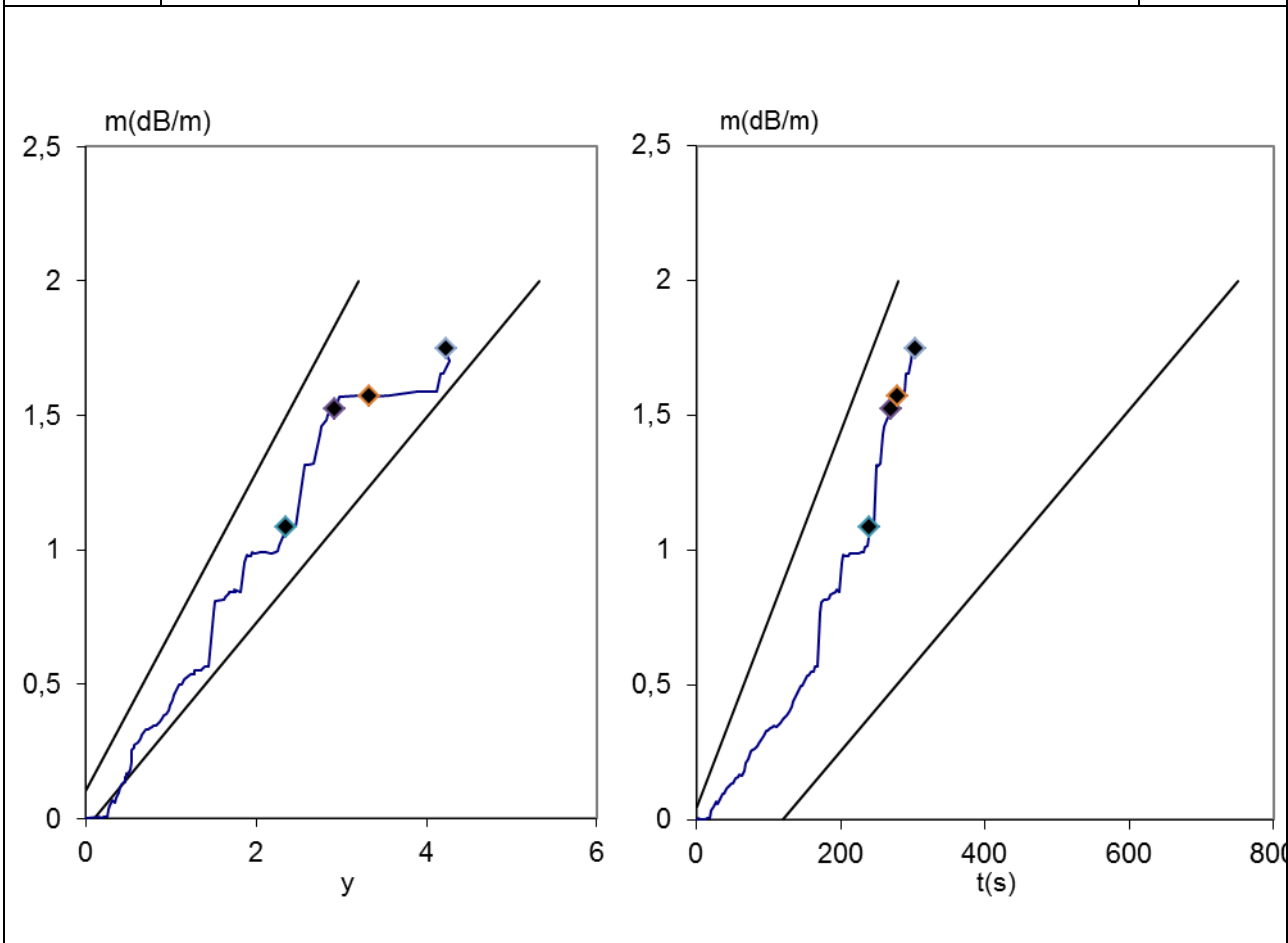
Test fire parameters

No detector	m, dB m ⁻¹	y	ΔT, C°	t,s	Verdict
17	1,50	1,57	0,2	545	P
18	1,54	1,55	0,2	554	P
19	1,75	1,77	0,3	572	P
20	0,83	0,81	0,2	503	P

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Clause	Requirement	Result-Remark	Verdict
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5.15	Table TF3		P
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Ambient: T=20,6°C

Test fire parameters

No detector	m, dB m ⁻¹	y	ΔT, C°	t,s	Verdict
17	1,53	2,92	0,2	270	P
18	1,08	2,36	0,1	240	P
19	1,57	3,32	0,2	279	P
20	1,75	4,22	0,2	303	P

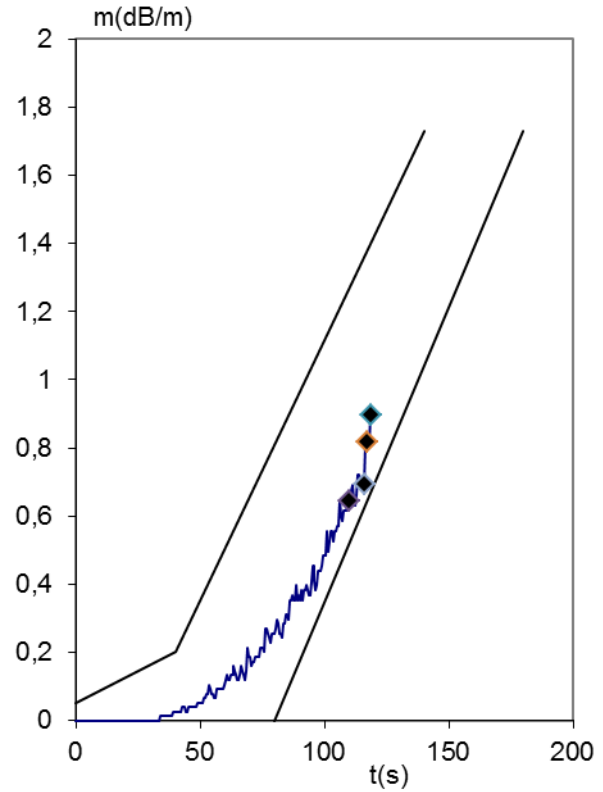
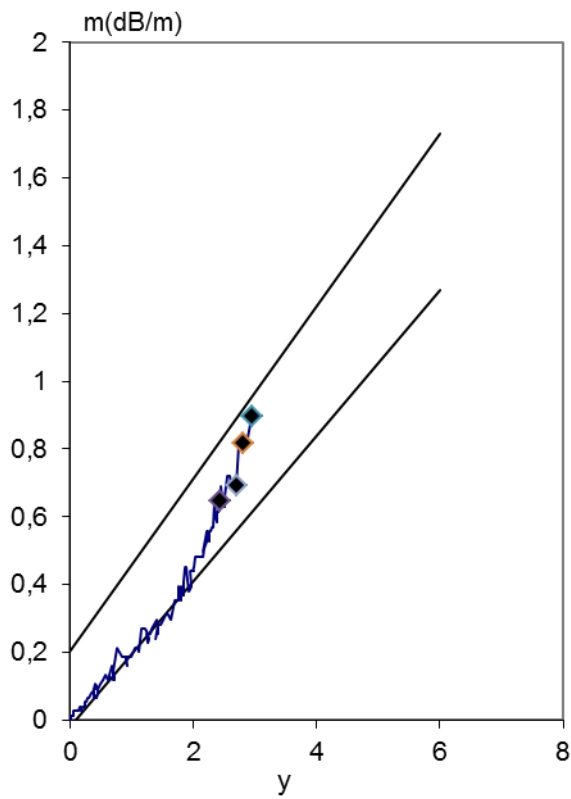
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Clause	Requirement	Result-Remark	Verdict
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5.15

Table TF4

P



Ambient: T=20,4°C

Test fire parameters

No detector	m, dB m ⁻¹	y	ΔT, C°	t,s	Verdict
17	0,64	2,43	7,3	109	P
18	0,81	2,81	8,7	119	P
19	0,89	2,94	8,9	124	P
20	0,69	2,70	8,5	116	P

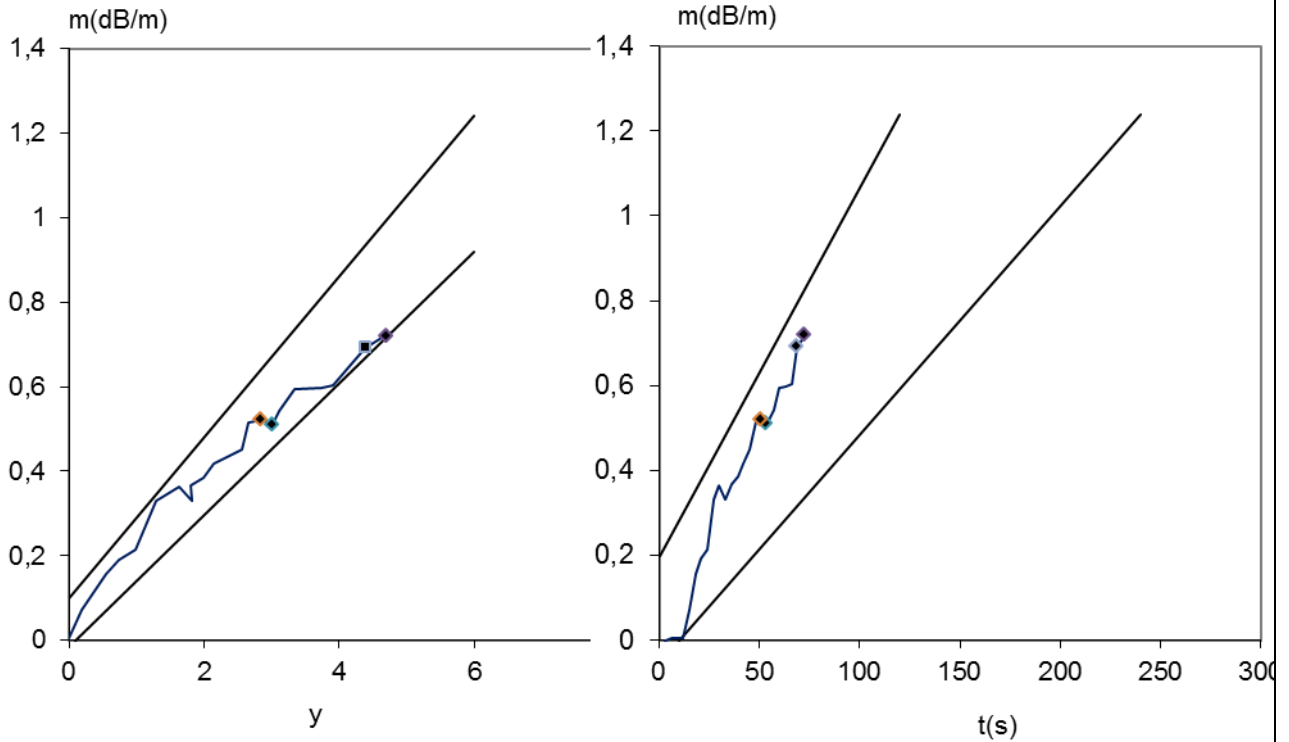
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Clause	Requirement	Result-Remark	Verdict
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5.15

Table TF5

P



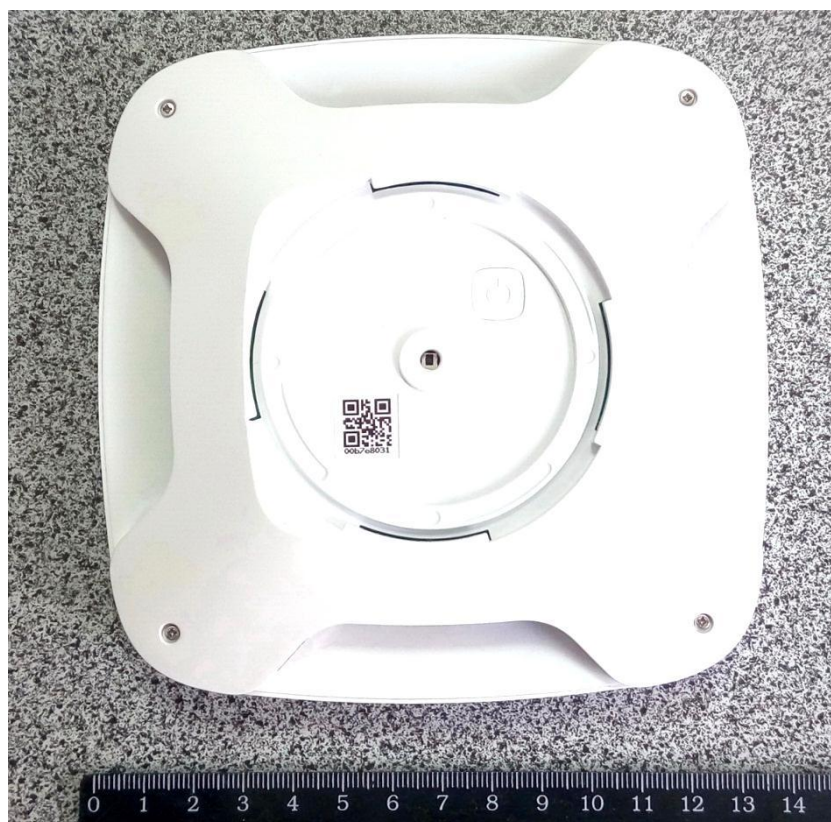
Ambient: T=20,2°C

Test fire parameters

№ detector	m, dB m ⁻¹	y	ΔT, C°	t,s	Verdict
17	0,72	4,69	27,5	73	P
18	0,51	3,01	26,1	54	P
19	0,52	2,83	25,8	51	P
20	0,69	4,38	27,3	69	P



Phot 1-1



Phot 1-2

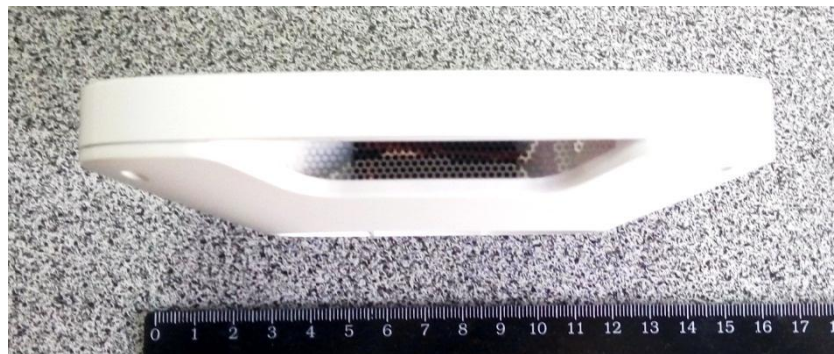


Photo 2-1



Photo 2-2

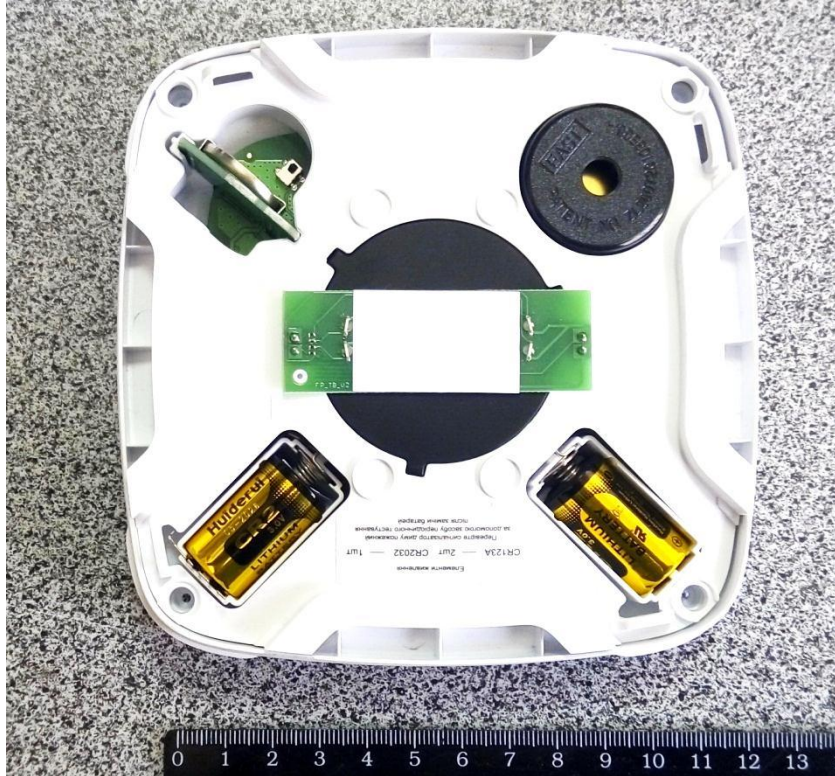


Photo 3-1

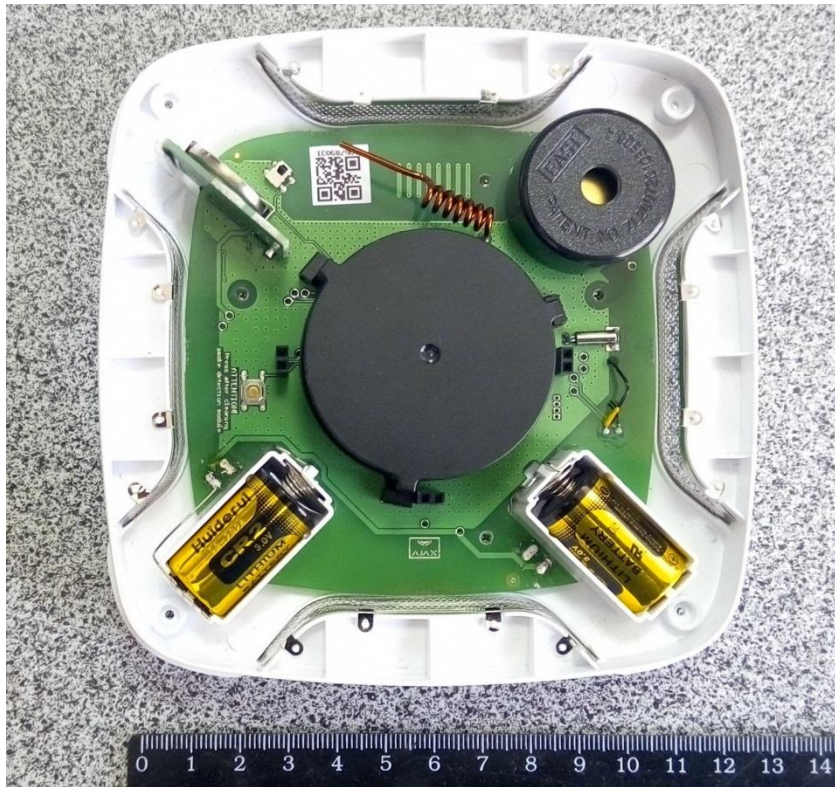


Photo 3-2

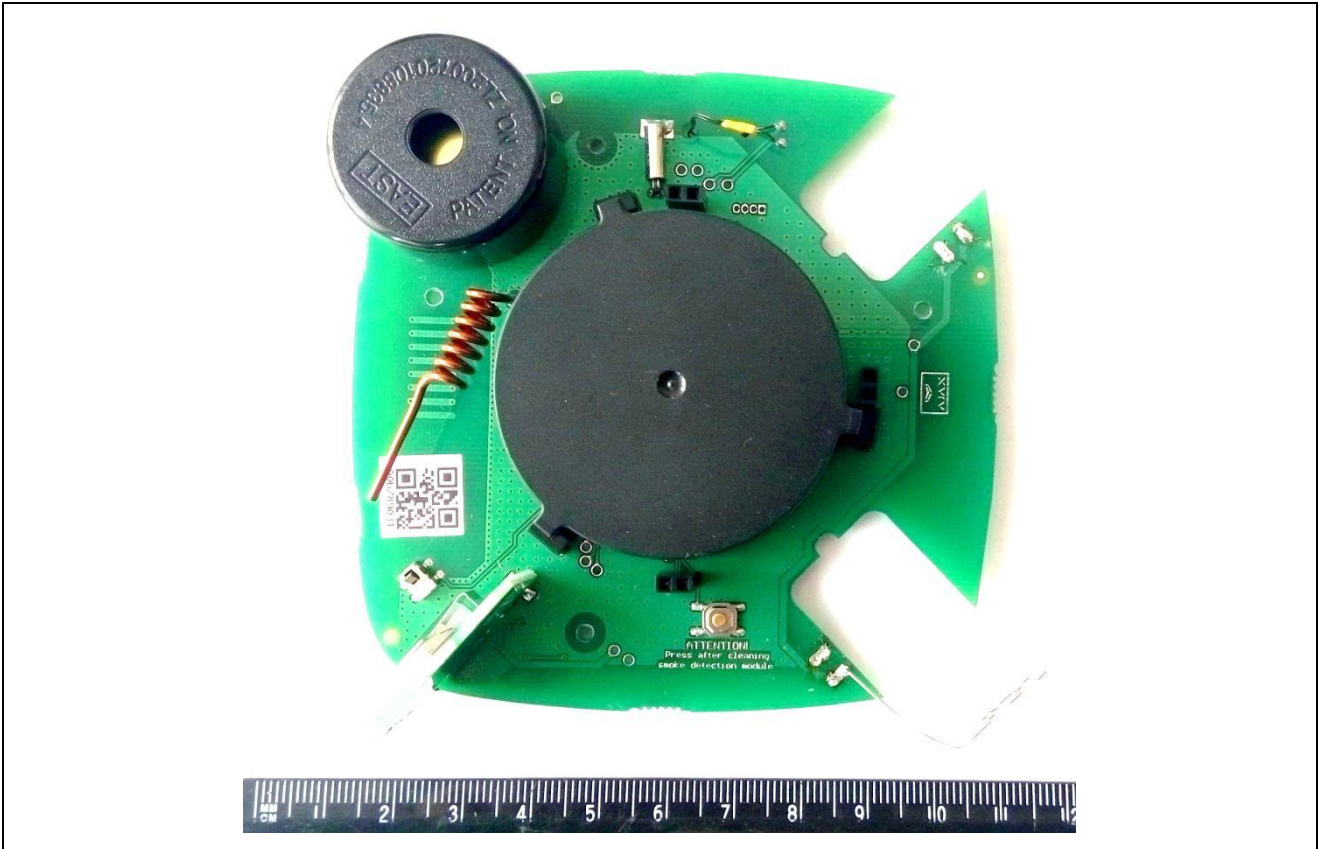


Photo 4-1

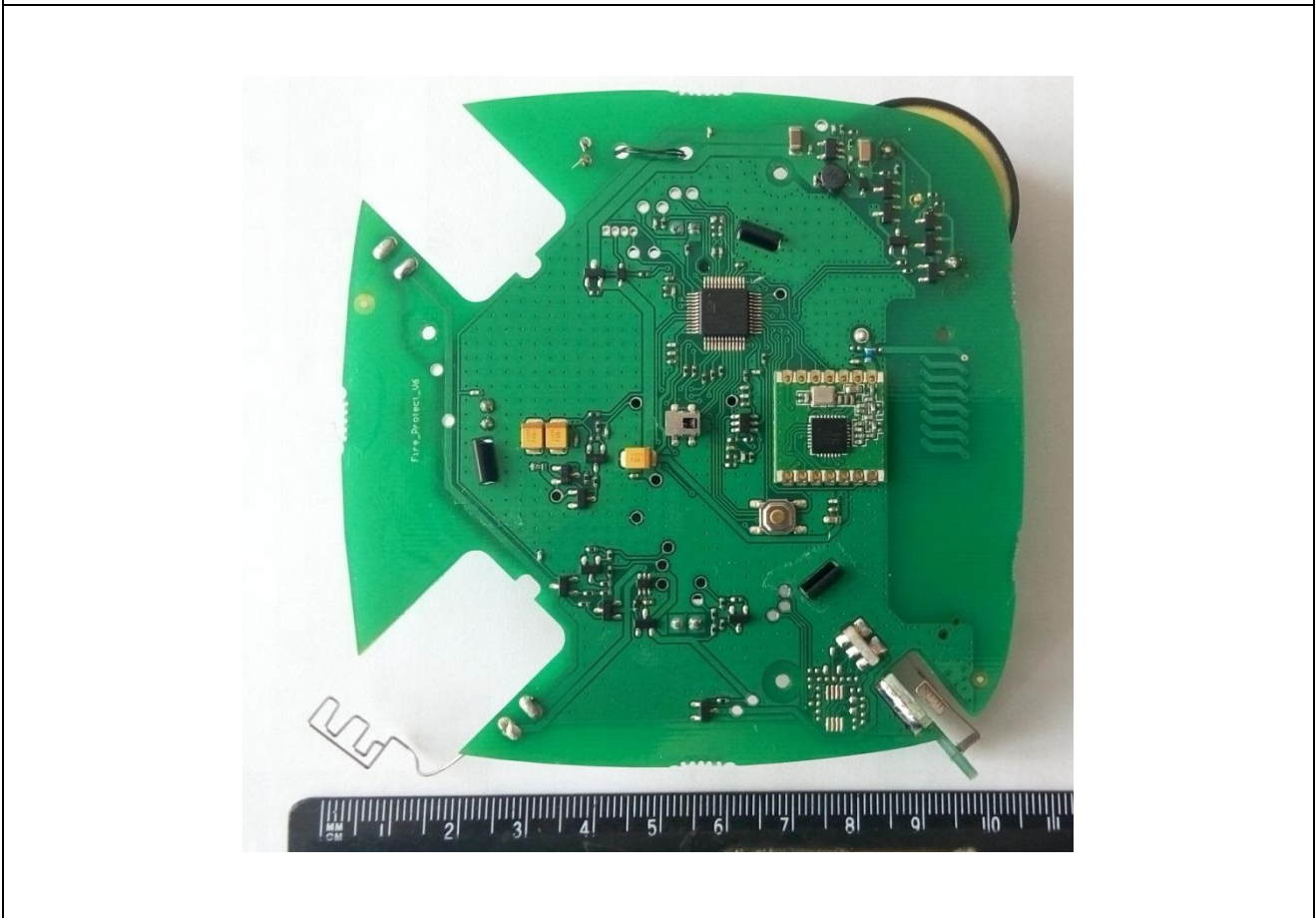


Photo 5-2



Photo 6-1



Photo 6-2

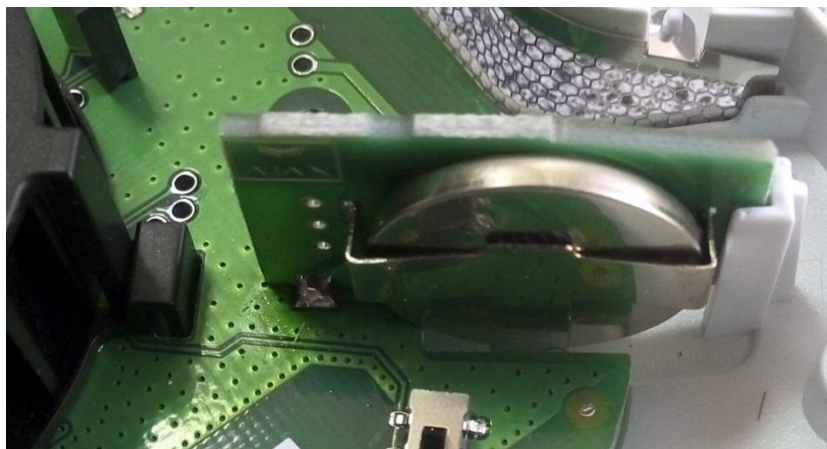


Photo 7-1



Photo 8-2