



Test Report



Report No.: PTC23122110301C-EN01

Issue Date: Dec. 29, 2023

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Applicant: HANGZHOU ZANUO TECHNOLOGY CO.,LTD
Address: Room 2001,Building 3,No. 1217,Wenyi West Road,Cangqian Street,Yuhang District,
Hangzhou, ZheJiang, China

The following merchandise was (were) submitted and identified by client as:

Sample Name: Network Video Recorder
Model: Main test model: NVR5108C-8P
(Series model: Please refer to next page(s).)
Manufacturer: HANGZHOU ZANUO TECHNOLOGY CO.,LTD
Address: Room 2001,Building 3,No. 1217,Wenyi West Road,Cangqian Street,Yuhang
District, Hangzhou, ZheJiang, China
Sample Received Date: Dec. 26, 2023
Completed Date: Dec. 29, 2023

Test Requested: As specified by client, with reference to RoHS Directive 2011/65/EU and its subsequent amendments regulation EU No.2015/863.(Lead (Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr⁶⁺), PBBs and PBDEs, Phthalates (DBP, BBP,DEHP,DIBP))

Conclusion(s): According to the test results of below test parameters, the tested materials of submitted samples complied with the requirements for RoHS Directive 2011/65/EU and its subsequent amendments regulation EU No.2015/863.

Test Result(s) and Test Method(s):Please refer to next page(s).



Prepared by: Anne

Checked by:Crystal

Approved by: Miya

Anne

Crystal

Miya

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Series model:

NVR5104C-4P; NVR5104C-4P; NVR5108C-8P; NVR5108C-4P; NVR5116C-8P; NVR5104S-4P;
NVR5104S-4P; NVR5108S-4P; NVR5108S-8P; NVR5116S-8P; ZN-NVR5104C-P; ZN-NVR5104C-4P;
ZN-NVR5108C-8P; ZN-NVR5108C-4P; ZN-NVR5116C-8P; ZN-NVR5104S-P; ZN-NVR5104S-4P;
NVR5108S-4P; ZN-NVR5108S-8P; ZN-NVR5116S-8P; NVR5204C-P; NVR5204C-4P; NVR5208C-8P;
NVR5216C-8P; NVR5204S-P; NVR5204S-4P; NVR5208S-8P; NVR5216S-8P; ZN-NVR5204C-P;
ZN-NVR5204C-4P; ZN-NVR5208C-8P; ZN-NVR5216C-8P; ZN-NVR5204S-P; ZN-NVR5204S-4P;
ZN-NVR5208S-8P; ZN-NVR5216S-8P; NVR5104C-P-S2; NVR5104C-4P-S2; NVR5108C-8P-S2;
NVR5108C-4P-S2; NVR5116C-8P-S2; NVR5104S-P-S2; NVR5104S-4P-S2; NVR5108S-4P-S2;
NVR5108S-8P-S2; NVR5116S-8P-S2; ZN-NVR5104C-P-S2; ZN-NVR5104C-4P-S2; ZN-NVR5108C-8P-S2;
ZN-NVR5108C-4P-S2; ZN-NVR5116C-8P-S2; ZN-NVR5104S-P-S2; ZN-NVR5104S-4P-S2;
NVR5108S-4P-S2; ZN-NVR5108S-8P-S2; ZN-NVR5116S-8P-S2; NVR5204C-P-S2; NVR5204C-4P-S2;
NVR5208C-8P-S2; NVR5216C-8P-S2; NVR5204S-P-S2; NVR5204S-4P-S2; NVR5208S-8P-S2;
NVR5216S-8P-S2; ZN-NVR5204C-P-S2; ZN-NVR5204C-4P-S2; ZN-NVR5208C-8P-S2;
ZN-NVR5216C-8P-S2; ZN-NVR5204S-P-S2; ZN-NVR5204S-4P-S2; ZN-NVR5208S-8P-S2;
ZN-NVR5216S-8P-S2; NVR5104E-4P; NVR5108E-8P; ZN-NVR5104E-4P; ZN-NVR5108E-8P;
ZN-NVR5104E-4P; ZN-NVR5108E-8P; ZN-NVR5104E-4P; ZN-NVR5108E-8P; NVR6204E-I-4P;
NVR6208E-I-8P; NVR6216E-I-16P; NVR6232E-I-16P; ZN-NVR6204E-I-4P; ZN-NVR6208E-I-8P;
ZN-NVR6216E-I-16P; ZN-NVR6232E-I-16P; NVR6108E-I-8P; NVR6116E-I-16P; NVR6132E-I-16P;
ZN-NVR6108E-I-8P; ZN-NVR6116E-I-16P; ZN-NVR6132E-I-16P; NVR8208E-I-8P; NVR8216E-I-16P;
NVR8232E-I-16P; NVR8264E-I-16P; ZN-NVR8208E-I-8P; ZN-NVR8216E-I-16P; ZN-NVR8232E-I-16P;
ZN-NVR8264E-I-16P; NVR8108E-I-8P; NVR8116E-I-16P; NVR8132E-I-16P; ZN-NVR8108E-I-8P;
ZN-NVR8116E-I-16P; ZN-NVR8132E-I-16P

Test Result(s) and Test Method(s):Please refer to next page(s).

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Test Result(s):

1.1) RoHS Directive 2011/65/EU -(Lead (Pb)/Cadmium(Cd)/Mercury(Hg)/Hexavalent Chromium(Cr⁶⁺)/PBBs/PBDEs)

Test Method: IEC 62321-3-1: 2013, IEC 62321-6:2015,analyzed by EDXRF & GC-MS.

No.	Materials Description	EDXRF Result(s) (mg/kg)					Chemical Result (mg/kg)	Conclusion
		Pb	Cd	Hg	Cr	Br		
1	Silvery metal with black plating (body shell)	BL	BL	BL	BL	--	--	PASS
2	Silvery metal (screws)	BL	BL	BL	BL	--	--	PASS
3	Transparent plastic with black coating with viscose (display panel)	BL	BL	BL	BL	BL	--	PASS
4	Green PCB (PCB "JK1632208C-P8")	BL	BL	BL	BL	IN	PBBs:N.D. PBDEs:N.D.	PASS
5	Silvery solder (PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS
6	Black body (IC, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
7	Black body (resistor, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
8	Black body (diode, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
9	Black body (Triode, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
10	Red/black body (diode, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
11	Black plastic (buzzer shell, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
12	Black gray plastic (big USB pin holder, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
13	Silvery metal (big USB shell, PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS
14	Gun gray metal with black plating (inductor, PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS

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No.	Materials Description	EDXRF Result(s) (mg/kg)					Chemical Result (mg/kg)	Conclusion
		Pb	Cd	Hg	Cr	Br		
15	Silvery metal (network interface, PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS
16	Black plastic with white printing (capacitance sleeve, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
17	Silvery metal (capacitor shell, PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS
18	Black rubber(capacitor, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
19	Brown paper with liquid (film inside capacitor, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
20	Silvery metal (capacitor pin, PCB "JK1632208C-P8")	BL	BL	BL	BL	--	--	PASS
21	White plastic (terminal, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
22	Red plastic (RCA socket, PCB "JK1632208C-P8")	BL	BL	BL	BL	BL	--	PASS
23	Green PCB (PCB "ZKB_JSQN_V01_RB")	BL	BL	BL	BL	IN	PBBs:N.D. PBDEs:N.D.	PASS
24	Translucent plastic (LED, PCB "ZKB_JSQN_V01_RB")	BL	BL	BL	BL	BL	--	PASS
25	Beige plastic (terminal)	BL	BL	BL	BL	BL	--	PASS
26	Silvery metal (DC shell, adapter)	BL	BL	BL	BL	--	--	PASS
27	Black plastic (adapter shell)	BL	BL	BL	BL	BL	--	PASS
28	Transparent plastic (mouse shell)	BL	BL	BL	BL	BL	--	PASS
29	Black plastic (mouse shell)	BL	BL	BL	BL	BL	--	PASS
30	Silvery metal (USB shell, mouse)	BL	BL	BL	BL	--	--	PASS

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- Note:**
1. mg/kg = milligram per kilogram (ppm).
 2. N.D. = Not Detected
 3. The result are obtained by EDXRF for primary screening, if the result exceeds the below limit (BL), and further chemical testing.
 4. For EDXRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine.

Screening limits in mg/kg for regulated elements in various matrices

Elements	Polymer	Metal	Composite Materials
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$

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

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Chemical Testing - Detection Limit & 2011/65/EU Limit:

Name of Chemicals	Method Detection Limit (mg/kg)	2011/65/EU Limit (mg/kg)
Lead (Pb)	5	1000
Cadmium (Cd)	5	100
Mercury (Hg)	5	1000
Chromium VI (Cr VI)	Non-metal: 10 Metal: Negative	Non-metal: 1000 Metal: Negative
Polybromobiphenyls (PBBs) -Bromobiphenyl (MonoBB) -Dibromobiphenyl (DiBB) -Tribromobiphenyl (TriBB) -Tetrabromobiphenyl (TetraBB) -Pentabromobiphenyl (PentaBB) -Hexabromobiphenyl (HexaBB) -Heptabromobiphenyl (HeptaBB) -Octabromobiphenyl (OctaBB) -Nonabromobiphenyl (NonaBB) -Decabromobiphenyl (DecaBB)	Each 5	Sum: 1 000
Polybromodiphenyl ethers (PBDEs) -Bromodiphenyl ether (MonoBDE) -Dibromodiphenyl ether (DiBDE) -Tribromodiphenyl ether (TriBDE) -Tetrabromodiphenyl ether (TetraBDE) -Pentabromodiphenyl ether (PentaBDE) -Hexabromodiphenyl ether (HexaBDE) -Heptabromodiphenyl ether (HeptaBDE) -Octabromodiphenyl ether (OctaBDE) -Nonabromodiphenyl ether (NonaBDE) -Decabromodiphenyl ether (DecaBDE)	Each 5	Sum: 1 000

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Test Result(s):

1.2) RoHS Directive 2011/65/EU and its subsequent amendments regulation EU No.2015/863 - (Phthalates DIBP,DBP, BBP, DEHP)

Method: IEC 62321-8: 2017, analyzed by Gas Chromatograph-Mass Spectrometry (GC-MS).

Substances	DBP	BBP	DEHP	DIBP	Conclusion
CAS No.	84-74-2	85-68-7	117-81-7	84-69-5	
Limit(s) (mg/kg)	1000	1000	1000	1000	
MDL (mg/kg)	50	50	50	50	
Material No.	Result (mg/kg)				
3+4	143	N.D.	68	N.D.	PASS
11+12+16	25	N.D.	N.D.	N.D.	PASS
18+19+21	74	N.D.	N.D.	N.D.	PASS
22+23+24	N.D.	N.D.	N.D.	N.D.	PASS
25+27	80	N.D.	N.D.	N.D.	PASS
28+29	98	N.D.	74	N.D.	PASS
6+7+8	N.D.	N.D.	N.D.	N.D.	PASS
9+10	N.D.	N.D.	N.D.	N.D.	PASS

- Note:**
1. mg/kg = milligram per kilogram (ppm).
 2. N.D. = Not Detected (< MDL).
 3. MDL = Method Detection Limit.

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Test Material List

The following materials apply only to the samples submitted for phthalates testing.

Material No.	Description (Location)
3	Transparent plastic with black coating with viscose (display panel)
4	Green PCB (PCB "JK1632208C-P8")
6	Black body (IC, PCB "JK1632208C-P8")
7	Black body (resistor, PCB "JK1632208C-P8")
8	Black body (diode, PCB "JK1632208C-P8")
9	Black body (Triode, PCB "JK1632208C-P8")
10	Red/black body (diode, PCB "JK1632208C-P8")
11	Black plastic (buzzer shell, PCB "JK1632208C-P8")
12	Black gray plastic (big USB pin holder, PCB "JK1632208C-P8")
16	Black plastic with white printing (capacitance sleeve, PCB "JK1632208C-P8")
18	Black rubber(capacitor, PCB "JK1632208C-P8")
19	Brown paper with liquid (film inside capacitor, PCB "JK1632208C-P8")
21	White plastic (terminal, PCB "JK1632208C-P8")
22	Red plastic (RCA socket, PCB "JK1632208C-P8")
23	Green PCB (PCB "ZKB_JSQN_V01_RB")
24	Translucent plastic (LED, PCB "ZKB_JSQN_V01_RB")
25	Beige plastic (terminal)
27	Black plastic (adapter shell)
28	Transparent plastic (mouse shell)
29	Black plastic (mouse shell)

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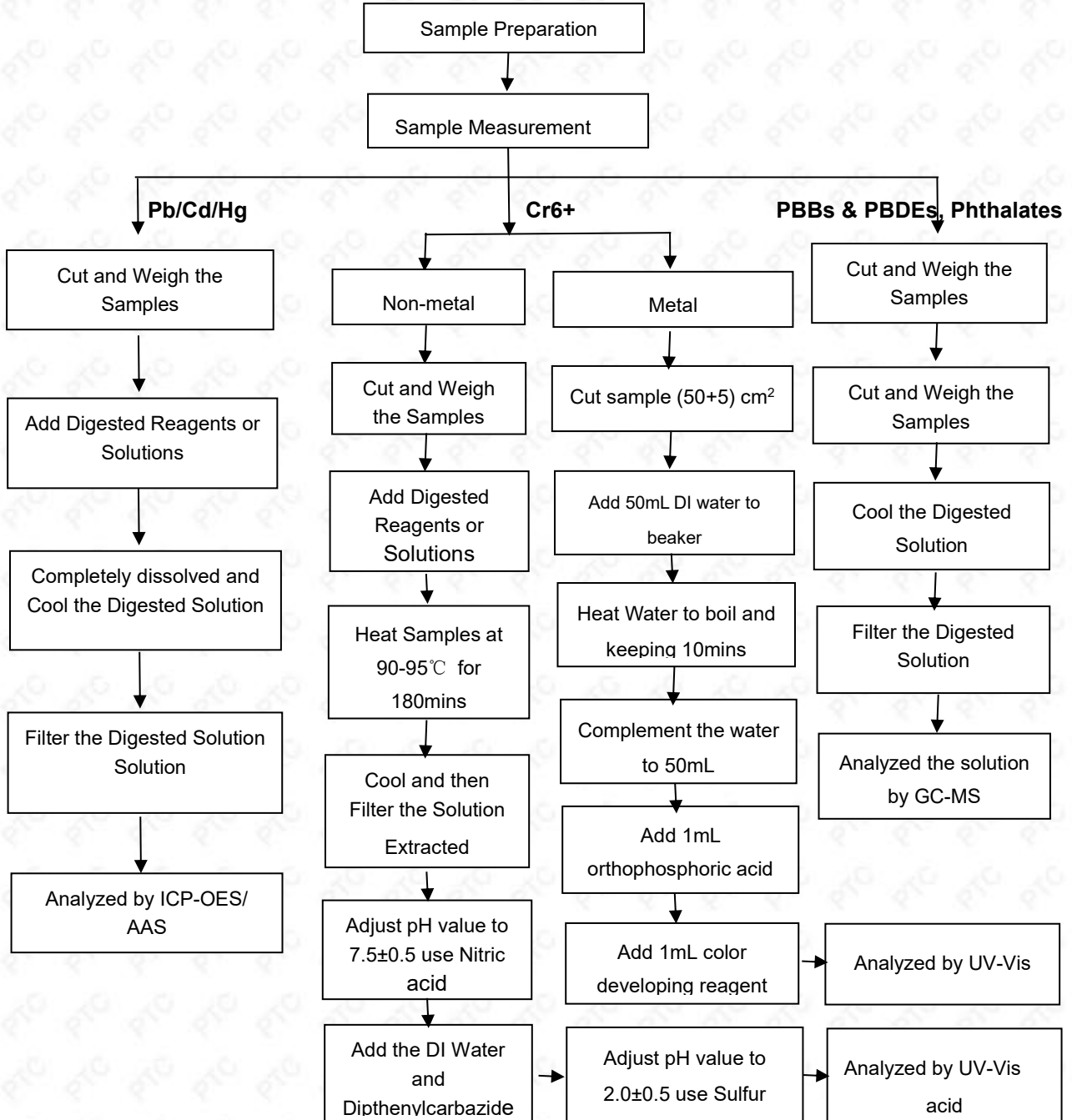
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Pb/Cd/Hg/Cr6+/PBBs/PBDEs , Phthalates Testing Flow Chart



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Photo(s) of Sample:



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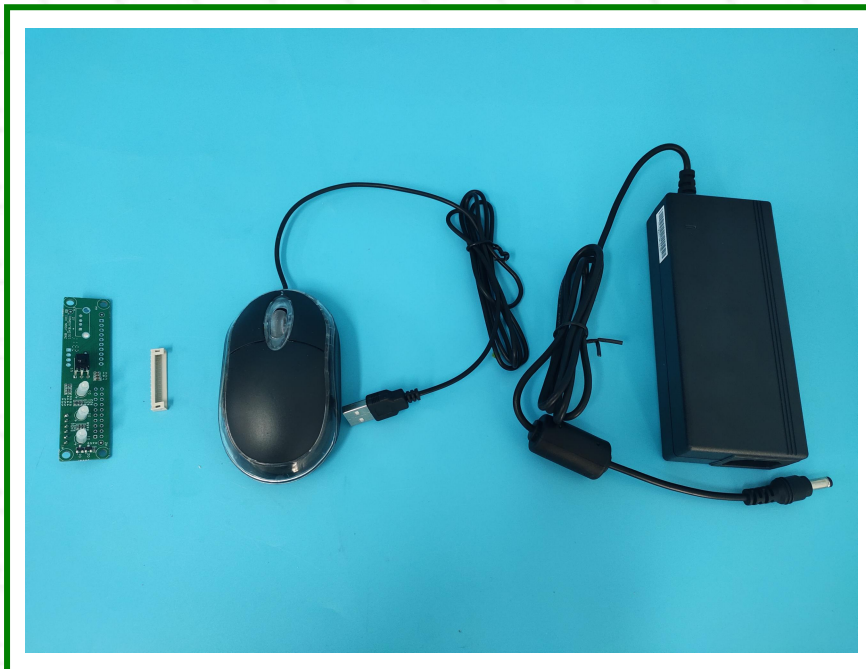


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