



TEST REPORT

Applicant : DexForce Technology Co., Ltd.
Address : Room 511, Building 4, Software Industry Base, No. 19, 17, 18, Haitian First Road, Binhai Community, Yuehai Street, Nanshan District,

Report on the submitted samples said to be:

Sample Name(s) : DexSense 3D industrial camera
Trade Mark : 
Tested Model No. : SPARROW-D-1001
Model List## : SPARROW-D-1100, SPARROW-D-1200, SPARROW-D-1300, SPARROW-D-1400, SPARROW-D-1500
Sample Received Date : September 24, 2024
Testing Period : September 24, 2024 ~ September 27, 2024
Date of Report : September 27, 2024
Testing Location : 901, No.40 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China
Results : Please refer to next page(s).

TEST REQUEST	CONCLUSION
As specified by client, based on the performed tests on submitted sample, the result of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), PBBs, PBDEs, Dibutyl Phthalate(DBP), Butylbenzyl Phthalate(BBP), Di-2-ethylhexyl Phthalate(DEHP) and Diisobutyl phthalate(DIBP) content comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.	PASS

=According to client's declaration, tested material would be produced as relevant product(s).

Signed for and on behalf of LCS



Terry Luo

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Shenzhen LCS Compliance Testing Laboratory Ltd.
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**A. EU RoHS Directive 2011/65/EU and its amendment directives**

Test method: Refer to IEC 62321-3-1:2013, Screening by X-ray Fluorescence Spectroscopy (XRF).

Test result(s):

Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
1	Silver metal shell with gray coating	BL	BL	BL	BL	/	/	2024-09-24
2	Colorless transparent soft plastic foot pad with adhesive	BL	BL	BL	BL	BL	BL	2024-09-24
3	Silver metal shell with gray/white coating	BL	BL	BL	BL	/	/	2024-09-24
4	tin solder	BL	BL	BL	BL	/	/	2024-09-24
5	White body (LED)	BL	BL	BL	BL	BL	BL	2024-09-24
6	Black body (transistor)	BL	BL	BL	BL	BL	BL	2024-09-24
7	Black plastic casing	BL	BL	BL	BL	BL	BL	2024-09-24
8	Brown body (C23)	BL	BL	BL	BL	BL	BL	2024-09-24
9	Black PCB board	BL	BL	BL	BL	BL	BL	2024-09-24
10	Black body (IC)	BL	BL	BL	BL	BL	BL	2024-09-24
11	Black body (U1)	BL	BL	BL	BL	BL	BL	2024-09-24
12	Silver metal pins	BL	BL	BL	BL	/	/	2024-09-24
13	Silver crystal oscillator	BL	BL	BL	BL	/	/	2024-09-24
14	Beige plastic socket shell	BL	BL	BL	BL	BL	BL	2024-09-24
15	Silver metal pin	BL	BL	BL	BL	/	/	2024-09-24
16	Silver metal pins	BL	BL	BL	BL	/	/	2024-09-24
17	Silver metal ring	BL	BL	BL	BL	/	/	2024-09-24
18	Golden metal pin	BL	BL	BL	BL	/	/	2024-09-24
19	Silver metal pin	BL	BL	BL	BL	/	/	2024-09-24
20	Black plastic port shell	BL	BL	BL	BL	BL	BL	2024-09-24
21	Black plastic port shell	BL	BL	BL	BL	BL	BL	2024-09-24
22	Golden metal pin	BL	BL	BL	BL	/	/	2024-09-24
23	Black body (R203)	BL	BL	BL	BL	BL	BL	2024-09-24
24	Black magnetic ring with enameled wire	BL	BL	BL	BL	/	/	2024-09-24
25	Grey white body (CB67)	BL	BL	BL	BL	BL	BL	2024-09-24

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Sample No.	Sample Description	Screening Result(s)						Date of sample submission/ Resubmission
		Cd	Pb	Hg	Cr▼	Br▼		
						PBBs	PBDEs	
26	Silver metal pin	BL	BL	BL	BL	/	/	2024-09-24
27	Black plastic fasteners	BL	BL	BL	BL	BL	BL	2024-09-24
28	Colorless transparent soft plastic foot pad with adhesive	BL	BL	BL	BL	BL	BL	2024-09-24
29	Blue plastic heat dissipation pad	BL	BL	BL	BL	BL	BL	2024-09-24

Note:

- Results were obtained by XRF for primary screening, and further chemical testing by ICP(for Cd, Pb, Hg), UV-Vis(for Cr(VI)) and GC-MS(for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013(Unit: mg/kg).

Element	Polymers	Metals	Composite material
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
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	$BL \leq (300-3\sigma) < X$	N/A	$BL \leq (250-3\sigma) < X$

Remark:

- BL= Below Limit
 - OL= Over Limit
 - X= The range of needing to do further testing
 - 3σ = The reproducibility of analytical instruments
 - N/A= Not applicable
 - LOD= Detection limit
- The XRF screening test for RoHS elements – The reading may be different to the actual content in the sample be of non-uniformity composition.
 - The maximum permissible limit is quoted from the document RoHS Directive 2011/65/EU with amendment (EU) 2015/863.
 - ▼=For restricted substances PBBs and PBDEs, the results show the total Br content, the restricted substance was Cr(VI), and the results showed the total Cr content.

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RoHS Restricted Substances	Maximum Concentration Value (mg/kg) (by weight in homogenous materials)
Cadmium(Cd)	100
Lead(Pb)	1000
Mercury(Hg)	1000
Hexavalent Chromium(Cr(VI))	1000
Polybrominated biphenyls(PBBs)	1000
Polybrominated diphenylethers(PBDEs)	1000
Dibutyl Phthalate(DBP)	1000
Butylbenzyl Phthalate(BBP)	1000
Di-(2-ethylhexyl) Phthalate(DEHP)	1000
Diisobutyl phthalate(DIBP)	1000

Disclaimers:

This XRF Screening report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes. The result shown in this XRF screening report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.



**B. EU RoHS Directive 2011/65/EU with amendment (EU) 2015/863 on DBP, BBP, DEHP & DIBP content**

Test method:

Phthalates(DBP, BBP, DEHP & DIBP) Content:

Refer to IEC 62321-8:2017, by solvent extraction and analysis was performed by gas chromatography-mass spectrometer (GC-MS).

Test result(s):

1) Phthalates(DBP, BBP, DEHP & DIBP)

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		2+5+6+7+8+9	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		10+11+14+20+21+23	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

Tested Item(s)	MDL (mg/kg)	Test Result(s) (mg/kg)	Limit (mg/kg)
		25+27+28+29	
Dibutyl Phthalate(DBP) Content	50	N.D.	1000
Butylbenzyl Phthalate(BBP) Content	50	N.D.	1000
Di-(2-ethylhexyl) Phthalate(DEHP) Content	50	N.D.	1000
Diisobutyl phthalate(DIBP) Content	50	N.D.	1000

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Note:

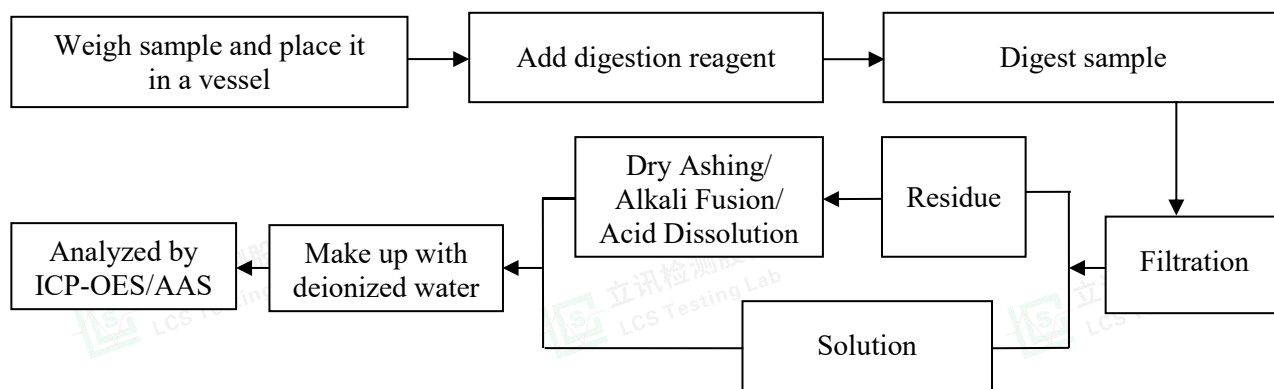
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg= milligram per kilogram=ppm
- According to customer's requirement, only the appointed materials have been tested.



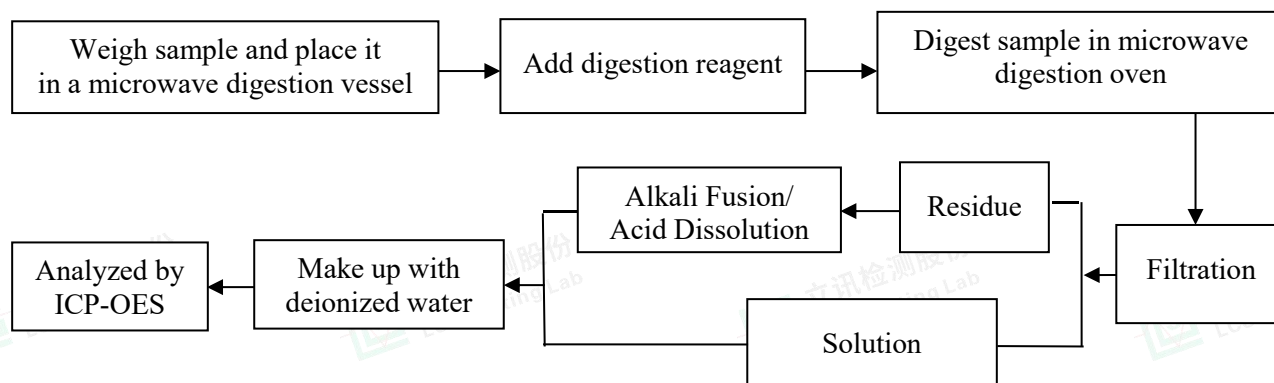


Test Process

1. Lead(Pb) & Cadmium(Cd): IEC 62321-5:2013

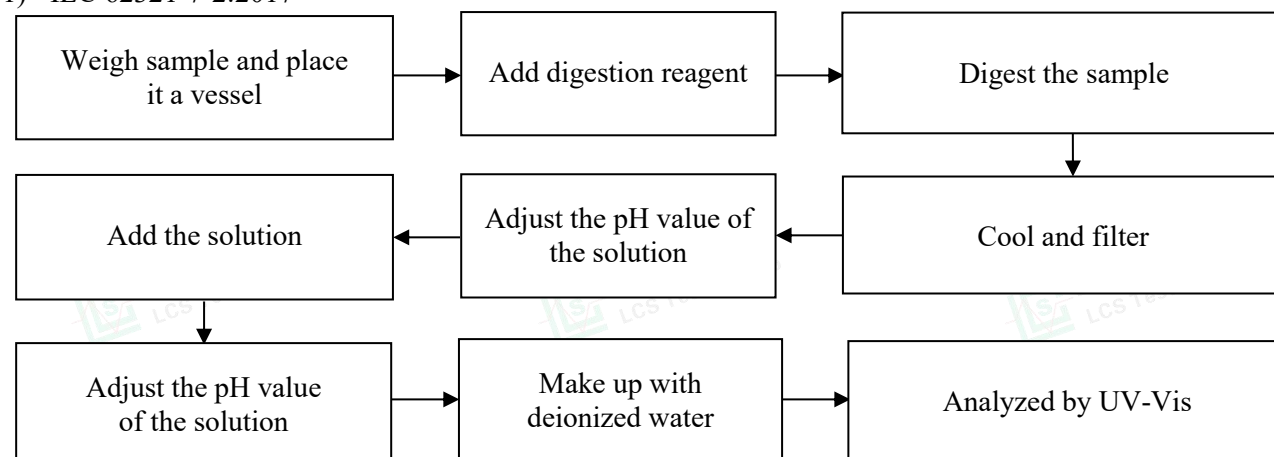


2. Mercury(Hg): IEC 62321-4:2013+AMD1:2017 CSV



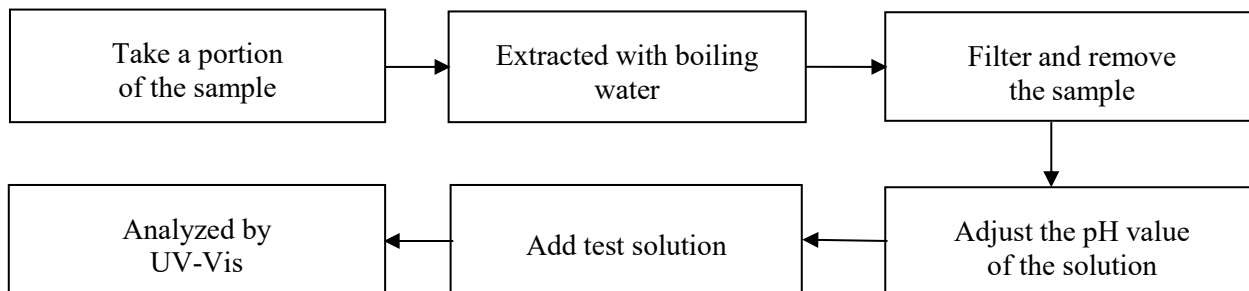
3. Hexavalent Chromium(Cr(VI))

1) IEC 62321-7-2:2017

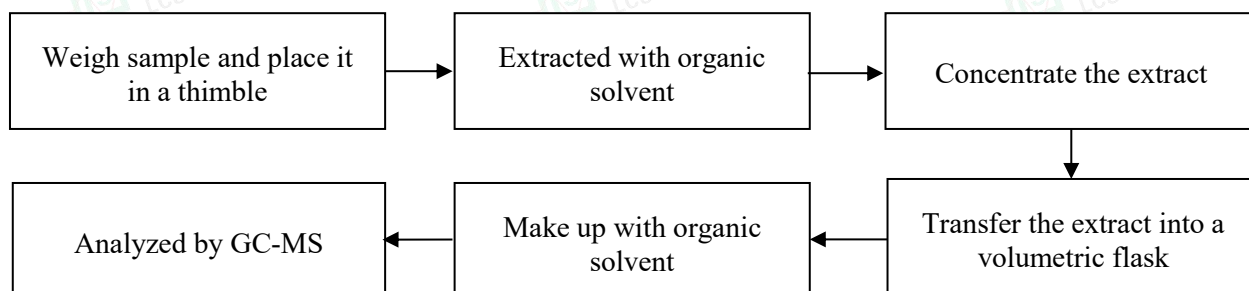




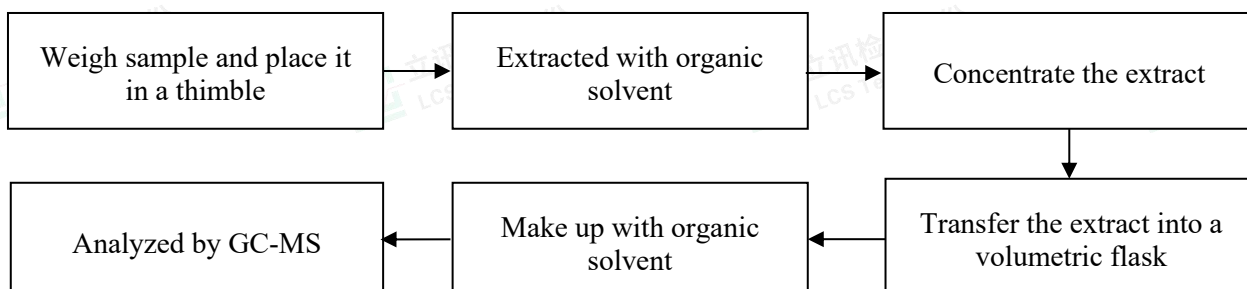
2) IEC 62321-7-1:2015



4. Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ethers(PBDEs) : IEC 62321-6:2015

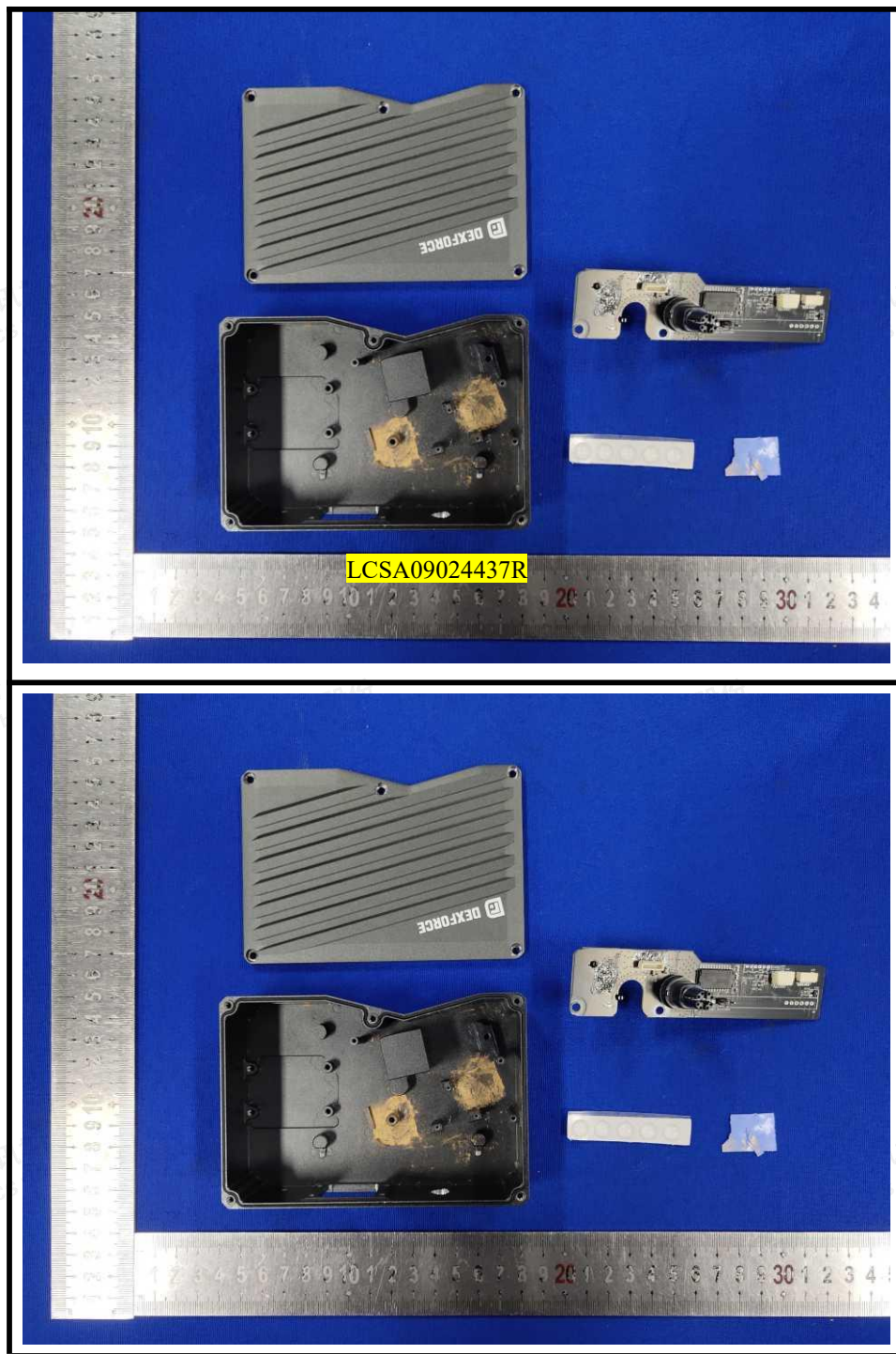


5. Phthalates(DBP, BBP, DEHP & DIBP) : IEC 62321-8:2017





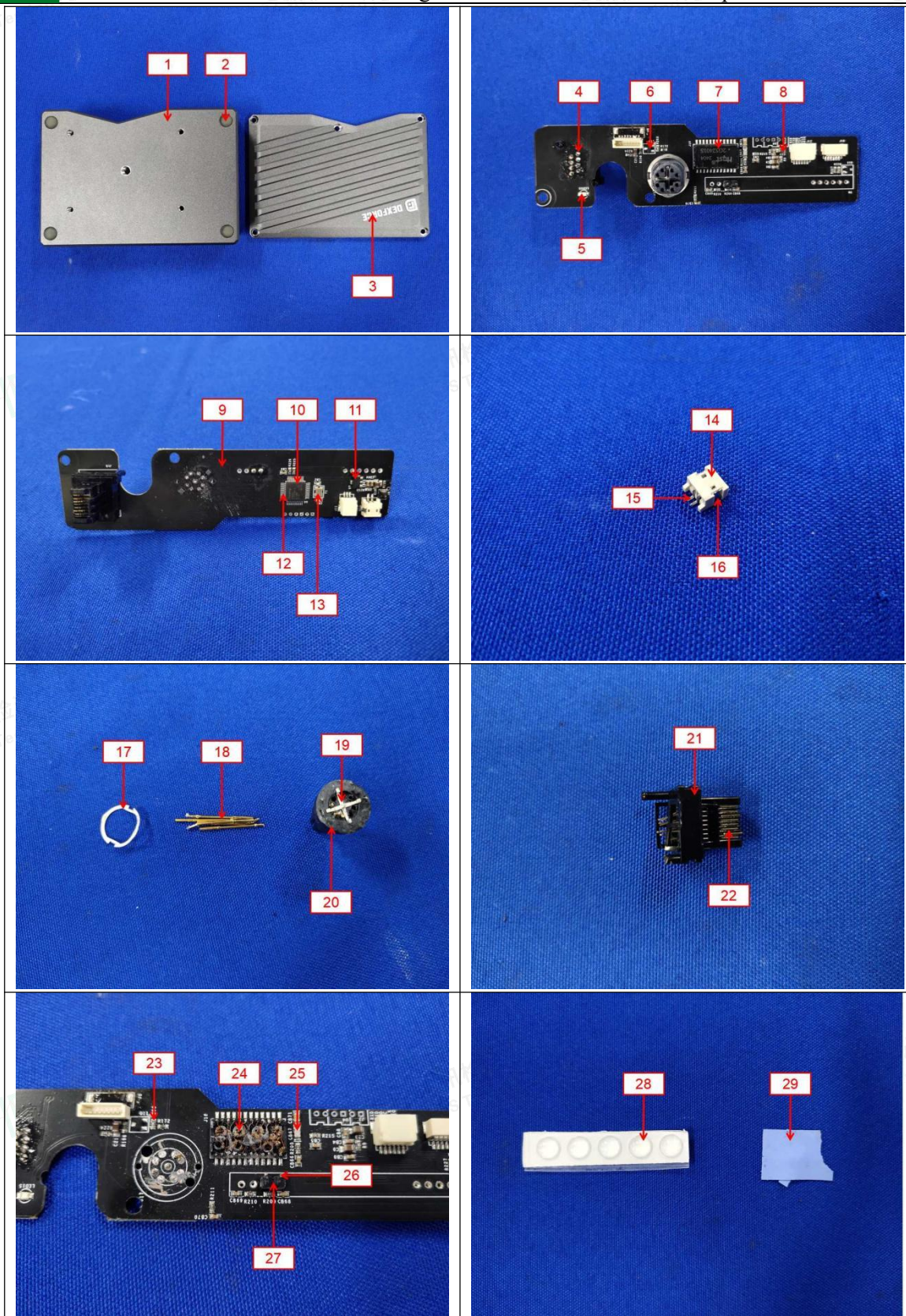
The photo(s) of the sample



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*** End of Report ***

