

## Test Report

Number: GZHH00434591

Applicant: UNI-TREND TECHNOLOGY (CHINA) CO.,LTD  
NO.6, GONG YE BEI 1ST ROAD, SONGSHAN  
LAKE NATIONAL HIGH-TECH INDUSTRIAL  
DEVELOPMENT ZONE, DONGGUAN CITY,  
GUANGDONG PROVINCE,CHINA

Date: Feb 18, 2022

Attn: GUSSIE XIANG

### Sample Description:

One (1) piece of submitted sample said to be :

Item Name : **Infrared Thermometer**  
Item No. : **UT305C+**  
Reference No. : UT305A+, UTi32  
Manufacturer : Uni-Trend Technology(China) Co., Ltd  
Country of Origin : China  
Date Sample Received : Dec 29, 2021 & Jan 24, 2022 & Feb 11, 2022  
Testing Period : Dec 29, 2021 to Feb 14, 2022

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### Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

To be continued



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### Conclusion:

Tested Sample  
Tested components of submitted sample

Standard  
Restriction of the use of certain hazardous substance in electrical and electronic equipment (RoHS Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863)


Result  
Pass

Restricted Substances Content Requirement in Regulation 3(1) of The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032) as amended

Pass

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Authorized by:  
For Intertek Testing Services Shenzhen Ltd.  
Guangzhou Branch, Hardlines

  
Victor T.J. Wang  
Assistant General Manager



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Tests Conducted

1 RoHS Chemical Test

Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0:2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

(A) Results:

Screened Components	XRF Results		Chemical Confirmation Result
(1)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(2)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(3)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(4)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(5)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(6)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(7)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(8)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(9)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(10)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(11)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(12)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(13)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(14)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(15)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(16)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(17)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(18)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(19)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(20)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(21)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(22)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(23)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(24)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(25)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(26)	Cd	ND	Pb: 32811mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(27)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(28)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(29)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(30)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(31)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(32a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(32b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(33)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(34)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(35)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(36a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(36b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(36c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(37)	Cd	ND	NT
	Pb	>1500mg/kg <sup>#3</sup>	
	Hg	ND	
	Cr	ND	
	Br	ND	
(38)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(39)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(40a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(40b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(41)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(42a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(42b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(42c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(43a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(43b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(44)	Cd	ND	Cr <sup>6+</sup> : ND
	Pb	Detected	
	Hg	ND	
	Cr	Inconclusive	
	Br	ND	
(45)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(46)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(47)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(48)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(49)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(50)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(51)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(52)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(53)	Cd	ND	NT
	Pb	>1500mg/kg <sup>#2</sup>	
	Hg	ND	
	Cr	ND	
	Br	ND	
(54)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(55)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(56)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(57)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(58)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(59)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(60)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61d)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(61e)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(61f)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(61g)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(61h)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(62)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(63a)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	

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Screened Components	XRF Results		Chemical Confirmation Result
(63b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(64)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(65)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(66)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(67)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(68)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(69)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(70)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(71)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(72)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(73)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(74)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(75)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(76)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(77a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(77b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(77c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(77d)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(78)	Cd	ND	Pb: 26659mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(79)	Cd	ND	Pb: 25518mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(80)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Screened Components	XRF Results		Chemical Confirmation Result
(81)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(82)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(83)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(84)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(85)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(86)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(87)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(88)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(89)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(90)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(91)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(92)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(93)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(94)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Screened Components	XRF Results		Chemical Confirmation Result
(95)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(96)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(97)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(98)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(99)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(100)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(101)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Tests Conducted

(B) Phthalate Screening Test

Non-toys:

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(1)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(2)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(3)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(4)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(5)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(6)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(7)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(8)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(10)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(14)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(15)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(16)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(17)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(18)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(19)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(27)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(29)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(30)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(31)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(32a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(33)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(35)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(36a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(37)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(38)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(39)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(40a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(41)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(42c)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(43a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(47)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(49)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(50)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(51)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(55)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(60)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61c)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61d)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(62)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(63a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(64)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(65)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(67)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(68)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(69)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(70)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(71)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(72)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(73)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(74)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(75)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(82)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(85)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(86)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(87)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(90)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(93)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(94)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(95)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(96)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(97)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(98)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(99)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(100)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

DBP =Dibutyl phthalate  
 DEHP = Di-(2-ethyl hexyl) phthalate  
 BBP = Benzyl butyl phthalate  
 DIBP = Di-(iso-butyl) phthalate

Detected = Below the lower screening limit of table (C) and pass  
 ND = Not detected  
 NT = Not tested  
 P = Pass

Negative = A negative test result indicated the concentration of Cr(VI) is less than threshold of 0.10 µg/cm<sup>2</sup> for boiling-water-extraction procedures by UV-VIS Spectrophotometer analysis. The coating is considered a non-Cr(VI) based coating.

\*\*\*\*\*



Tests Conducted

Remark:

(#1) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.

(#2) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from the constituent of glass or ceramic (other than dielectric ceramic in capacitors) in electrical and electronic component only, e.g. piezoelectronic devices, or in a glass or ceramic compound. According to EU RoHS Directive (2011/65/EU), Lead in ceramic or glass of the component can be exempted.

(#3) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from the constituent of high melting temperature type solders (i.e. Lead-based alloys containing 85% by weight or more Lead) only. According to EU RoHS Directive (2011/65/EU), Lead in high melting temperature type solders of the component can be exempted.

(C) Screening Limits

(C1) XRF Screening limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

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Tests Conducted

(C2) Preliminary Screening limits in mg/kg for phthalates test.

Phthalates	Polymer Materials
Dibutyl phthalate (DBP)	P ≤ 600< X
Di-(2-ethyl hexyl) phthalate (DEHP)	P ≤ 600< X
Benzyl butyl phthalate (BBP)	P ≤ 600< X
Di-(iso-butyl) phthalate (DIBP)	P ≤ 600< X

P = Pass

X = Inconclusive result

**F = Fail**

mg/kg = milligram per kilogram = ppm

(D) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

**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 and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results 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 is required to obtain quantitative data.

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**Test Report**

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Tests Conducted

(E) Chemical Test Methods:

Testing Item	Testing Method	Detection Limit
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	100 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content	With reference to IEC 62321-7-1 Edition 1.0:2015, by boiling water extraction and determined by UV-VIS Spectrophotometer	0.10 µg/cm <sup>2</sup>
Chromium (VI)(Cr <sup>6+</sup> ) Content	With reference to IEC 62321-7-2 Edition 1.0:2017, Hexavalent chromium – Determination of hexavalent chromium (Cr(VI) in polymers and electronics by the colorimetric method	10 mg/kg
Dibutyl phthalate (DBP) & Di-(2-ethyl hexyl) phthalate (DEHP) & Benzyl butyl phthalate (BBP) & Di-(iso-butyl) phthalate (DIBP)	With reference to IEC 62321-8 Edition 1.0:2017, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis	50 mg/kg

(F) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Di-(2-ethyl hexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di-(iso-butyl) phthalate (DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from Directive 2011/65/EU and amendment Commission Delegated Directive (EU) 2015/863 for homogeneous material.

Tested Components: See component list in the last section of this report

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**Test Report**

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Tests Conducted

2 RoHS Chemical Test

(A) Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0:2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

(A) Results:

Screened Components	XRF Results		Chemical Confirmation Result
(1)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(2)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(3)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(4)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(5)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(6)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(7)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(8)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(9)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(10)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(11)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(12)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(13)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(14)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(15)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(16)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(17)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(18)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(19)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(20)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(21)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(22)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(23)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(24)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(25)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(26)	Cd	ND	Pb: 32811mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(27)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(28)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(29)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(30)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(31)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(32a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(32b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(33)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(34)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

\*\*\*\*\*





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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(35)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(36a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(36b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(36c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(37)	Cd	ND	NT
	Pb	>1500mg/kg <sup>#3</sup>	
	Hg	ND	
	Cr	ND	
	Br	ND	
(38)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(39)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
(40a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(40b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(41)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(42a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(42b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(42c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(43a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(43b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(44)	Cd	ND	Cr <sup>6+</sup> : ND
	Pb	Detected	
	Hg	ND	
	Cr	Inconclusive	
	Br	ND	
(45)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(46)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(47)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(48)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(49)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(50)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(51)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(52)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(53)	Cd	ND	NT
	Pb	>1500mg/kg <sup>#2</sup>	
	Hg	ND	
	Cr	ND	
	Br	ND	
(54)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(55)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(56)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(57)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(58)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(59)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(60)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(61d)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(61e)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(61f)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(61g)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(61h)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(62)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(63a)	Cd	ND	PBBs : ND PBDEs : ND
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(63b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(64)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(65)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(66)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(67)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(68)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(69)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(70)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(71)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(72)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(73)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(74)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(75)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(76)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(77a)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(77b)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(77c)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(77d)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(78)	Cd	ND	Pb: 26659mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(79)	Cd	ND	Pb: 25518mg/kg <sup>#1</sup>
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
(80)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

\*\*\*\*\*



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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(81)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(82)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(83)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(84)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(85)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(86)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(87)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(88)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(89)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(90)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(91)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
(92)	Cd	ND	Cr <sup>6+</sup> : Negative
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
(93)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(94)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



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Number: GZHH00434591

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
(95)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(96)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(97)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(98)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(99)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(100)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
(101)	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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**Test Report**

Number: GZHH00434591

Tests Conducted

(B) Phthalate Screening Test

Non-toys:

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(1)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(2)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(3)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(4)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(5)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(6)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(7)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(8)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(10)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(14)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(15)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(16)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(17)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(18)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(19)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(27)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(29)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(30)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(31)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(32a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(33)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(35)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(36a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(37)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(38)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(39)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(40a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(41)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(42c)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(43a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(47)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(49)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(50)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(51)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(55)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(60)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61c)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(61d)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(62)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(63a)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(64)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(65)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(67)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(68)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(69)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(70)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(71)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(72)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(73)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(74)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(75)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(82)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(85)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(86)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(87)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(90)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(93)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(94)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(95)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(96)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(97)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

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**Test Report**

Number: GZHH00434591

Tests Conducted

Screened Components	Items	Screened Results(phthalates)	Chemical Confirmation Result
(98)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(99)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	
(100)	DEHP	P	NT
	BBP	P	
	DBP	P	
	DIBP	P	

DBP =Dibutyl phthalate  
 DEHP = Di-(2-ethyl hexyl) phthalate  
 BBP = Benzyl butyl phthalate  
 DIBP = Di-(iso-butyl) phthalate

Detected = Below the lower screening limit of table (C) and pass  
 ND = Not detected  
 NT = Not tested  
 P = Pass

Negative = A negative test result indicated the concentration of Cr(VI) is less than threshold of 0.10 µg/cm<sup>2</sup> for boiling-water-extraction procedures by UV-VIS Spectrophotometer analysis. The coating is considered a non-Cr(VI) based coating.

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**Test Report**

Number: GZHH00434591

Tests Conducted

Remark:

(# 1) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from Copper alloy only. According to The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032) as amended, Regulation 3(4), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.

(#2 ) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from the constituent of glass or ceramic (other than dielectric ceramic in capacitors) in electrical and electronic component only, e.g. piezoelectronic devices, or in a glass or ceramic compound. According to The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032) as amended, Regulation 3(4), Lead in ceramic or glass of the component can be exempted.

(#3 ) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from the constituent of high melting temperature type solders (i.e. Lead-based alloys containing 85% by weight or more Lead) only. According to The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032) as amended, Regulation 3(4), Lead in high melting temperature type solders of the component can be exempted.

(C) Screening Limits

(C1) XRF Screening limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

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**Test Report**

Number: GZHH00434591

Tests Conducted

(C2) Preliminary Screening limits in mg/kg for phthalates test.

Phthalates	Polymer Materials
Dibutyl phthalate (DBP)	P ≤ 600< X
Di-(2-ethyl hexyl) phthalate (DEHP)	P ≤ 600< X
Benzyl butyl phthalate (BBP)	P ≤ 600< X
Di-(iso-butyl) phthalate (DIBP)	P ≤ 600< X

P = Pass

X = Inconclusive result

**F = Fail**

mg/kg = milligram per kilogram = ppm

(D) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

**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 and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results 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 is required to obtain quantitative data.

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**Test Report**

Number: GZHH00434591

Tests Conducted

(E) Chemical Test Methods:

Testing Item	Testing Method	Detection Limit
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	100 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content	With reference to IEC 62321-7-1 Edition 1.0:2015, by boiling water extraction and determined by UV-VIS Spectrophotometer	0.10 µg/cm <sup>2</sup>
Chromium (VI)(Cr <sup>6+</sup> ) Content	With reference to IEC 62321-7-2 Edition 1.0:2017, Hexavalent chromium – Determination of hexavalent chromium (Cr(VI) in polymers and electronics by the colorimetric method	10 mg/kg
Dibutyl phthalate (DBP) & Di-(2-ethyl hexyl) phthalate (DEHP) & Benzyl butyl phthalate (BBP) & Di-(iso-butyl) phthalate (DIBP)	With reference to IEC 62321-8 Edition 1.0:2017, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis	50 mg/kg

(F) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Dibutyl phthalate (DBP)	0.1% (1000 mg/kg)
Di-(2-ethyl hexyl) phthalate (DEHP)	0.1% (1000 mg/kg)
Benzyl butyl phthalate (BBP)	0.1% (1000 mg/kg)
Di-(iso-butyl) phthalate (DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (S.I. 2012 No. 3032) as amended, Regulation 3(1) on restricted substances content in homogeneous materials.

Tested Components: See component list in the last section of this report

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## Test Report

Number: GZHH00434591

### Tests Conducted

#### Component list:

- (1) dark grey plastic
- (2) transparent plastic with inaccessible coating and adhesive
- (3) red soft plastic
- (4) transparent plastic
- (5) white coating
- (6) yellow/black soft plastic
- (7) blue/black soft plastic
- (8) grey/black soft plastic
- (9) black treated metal
- (10) red plastic
- (11) silver color metal
- (12) silver color metal
- (13) silver color metal
- (14) white plastic
- (15) red soft plastic with black printing(wire covering)
- (16) black soft plastic with white printing(wire covering)
- (17) blue plastic film with black printing
- (18) red paper with adhesive
- (19) conformal coating with green solder mask & copper color metal pad & fibreboard
- (20) solder
- (21) silver color metal
- (22) silver color metal
- (23) silver color metal
- (24) matt silver color metal
- (25) gold color metal
- (26) silver color metal with black printing
- (27) black plastic
- (28) silver color/grey glass
- (29) semi-transparent glue
- (30) red soft plastic
- (31) black soft plastic
- (32) capacitor
  - a)green body
  - b)silver color metal (pin)
- (33) yellow/red/black soft plastic with black printing (wire covering)
- (34) silver color metal
- (35) black plastic

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## Test Report

Number: GZHH00434591

### Tests Conducted

- (36) switch
  - a)black plastic
  - b)silver color metal
  - c)silver color metal (pin)
- (37) black body with brown printing & silver color metal (SMD diode)
- (38) black body with beige printing & silver color metal (SMD triode)
- (39) conformal coating with green solder mask & copper color metal pad & fibreboard
- (40) IC
  - a)black body
  - b)silver color metal (pin)
- (41) dark yellow plastic with brown coating & ceramic & silver color metal
- (42) SMD inductor
  - a)black magnet with white printing
  - b)copper color enamelled metal wire
  - c)black plastic with black glue
- (43) IC
  - a)black body
  - b)silver color metal (pin)
- (44) white ceramic with black material & white printing & silver color metal (SMD resistor)
- (45) beige ceramic with silver color metal (SMD capacitor)
- (46) brown ceramic with silver color metal (SMD capacitor)
- (47) silver color metal & quartz & green material(SMD crystal)
- (48) grey ceramic with silver color metal (SMD capacitor)
- (49) pink foam
- (50) beige plastic
- (51) grey plastic
- (52) silver color metal
- (53) transparent glass with inaccessible orange-red / black material & silver color metal (SMD diode)
- (54) silver color metal
- (55) beige plastic
- (56) black ceramic with silver color metal (SMD capacitor)
- (57) white ceramic with silver color metal (SMD capacitor)
- (58) silver color metal
- (59) gold color metal
- (60) dark grey plastic
- (61) buzzer
  - a)light grey plastic (cover)
  - b)black magnet
  - c)conformal coating with green solder mask & copper color metal pad & fibreboard & solder (pcb)
  - d)black plastic with glue
  - e)silver color metal
  - f)copper color enamelled wire
  - g)silver color metal
  - h)silver-grey metal

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## Test Report

Number: GZHH00434591

### Tests Conducted

- (62) silver color plastic with adhesive
  - (63) FPC
    - a)transparent blue/white/blue palstic
    - b)silver color metal
  - (64) dull white plastic
  - (65) matt white plastic film
  - (66) silver color metal
  - (67) semi-transparent white plastic film
  - (68) semi-transparent iridescent plastic film
  - (69) semi-transparent silver color plastic film
  - (70) black adhesive plastic film
  - (71) transparent plastic & white fibreboard with yellow coating & silver color metal (SMD LED)
  - (72) transparent plastic
  - (73) yellow/dull orange FPC
  - (74) matt semi-transparent grey plastic film
  - (75) semi-transparent grey plastic film with adhesive
  - (76) grey glass
  - (77) thermoelectric thermal infrared sensor
    - a)gold/silver color metal
    - b)transparent black glass
    - c)silver color metal
    - d)silver color metal (pin)
  - (78) gold color metal
  - (79) gold color metal
  - (80) silver color metal
  - (81) gold color metal
  - (82) transparent plastic
  - (83) silver color metal (pin)
  - (84) silver color metal wire
  - (85) black soft plastic
  - (86) semi-transparent plastic
  - (87) white plastic
  - (88) silver color metal
  - (89) silver color metal
  - (90) black soft plastic
- \*\*\*\*\*



**Test Report**

Number: GZHH00434591

Tests Conducted

- (91) light gold color metal
- (92) silver color metal
- (93) grey plastic
- (94) black soft plastic with white printing(wire covering)
- (95) black soft plastic (wire covering)
- (96) green soft plastic (wire covering)
- (97) red soft plastic (wire covering)
- (98) white soft plastic (wire covering)
- (99) light brown paper with transparent plastic film and inaccessible coatings
- (100) transparent double faced adhesive tape
- (101) solder

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## Test Report

Number: GZHH00434591

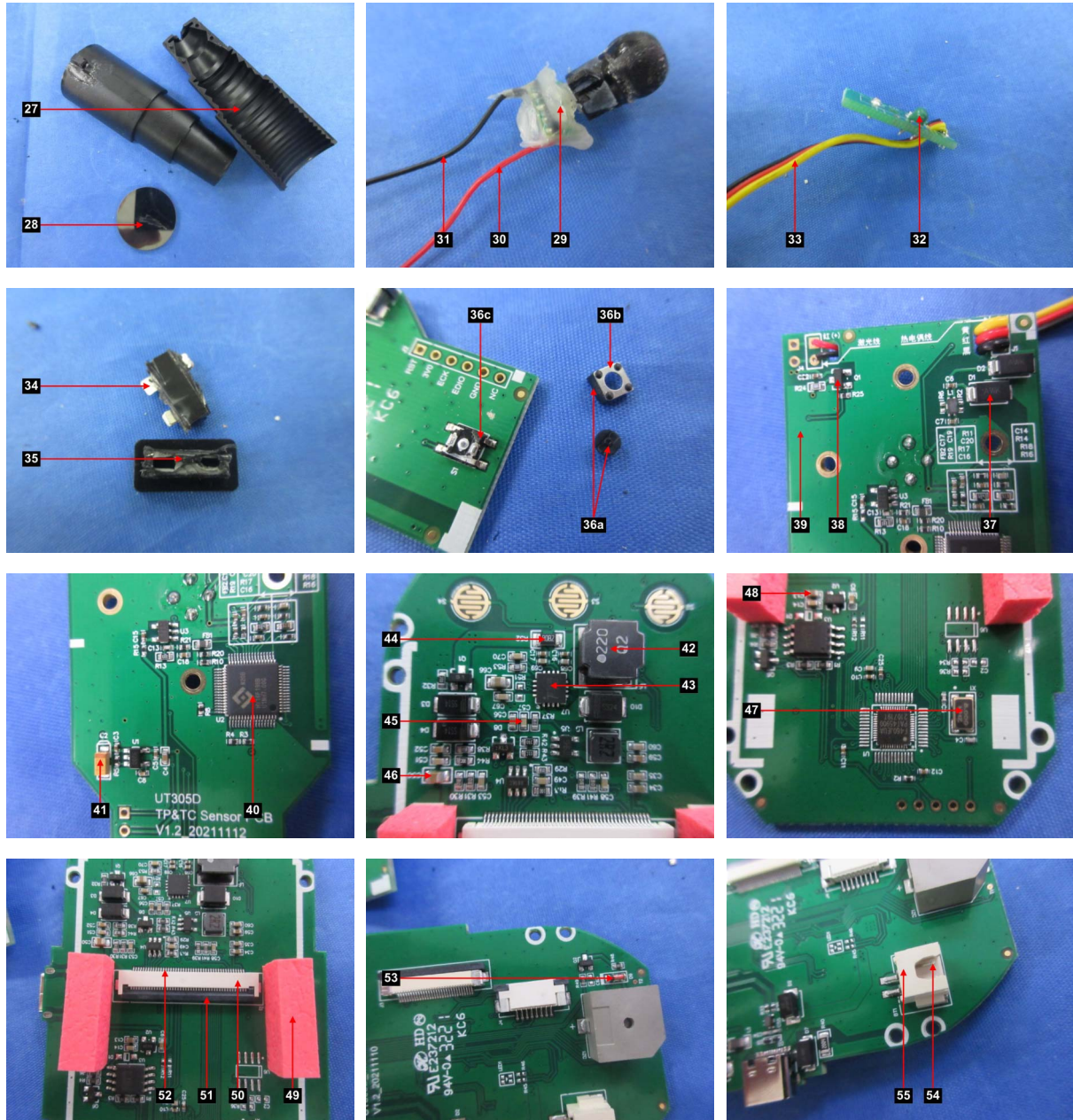
### Tests Conducted



## Test Report

Number: GZHH00434591

### Tests Conducted



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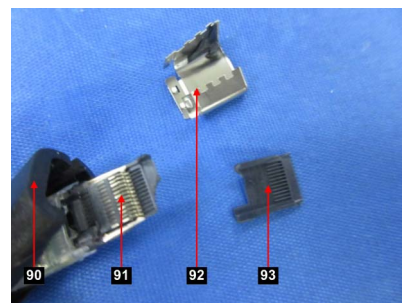
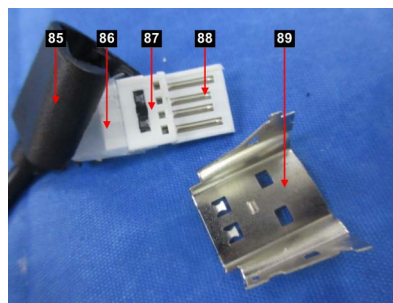
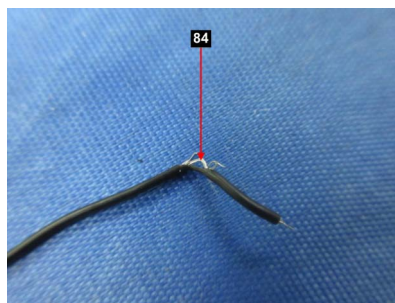
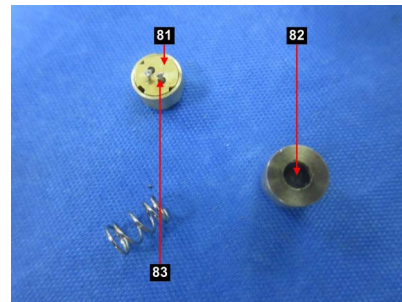
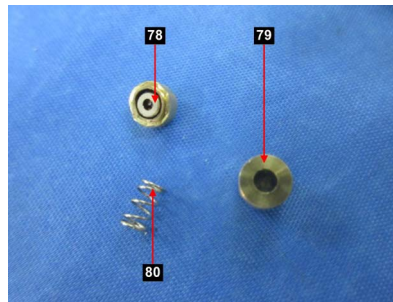
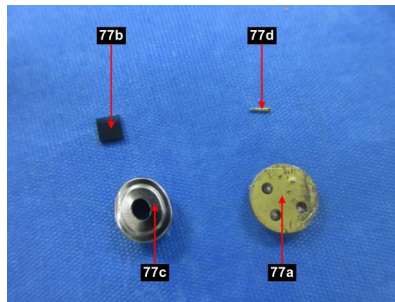
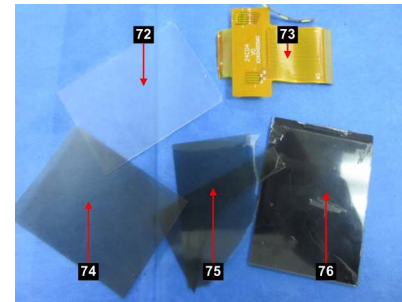
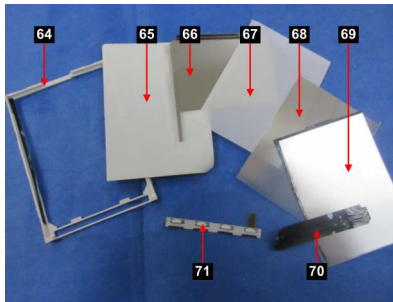
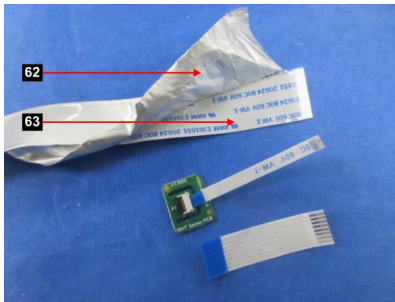
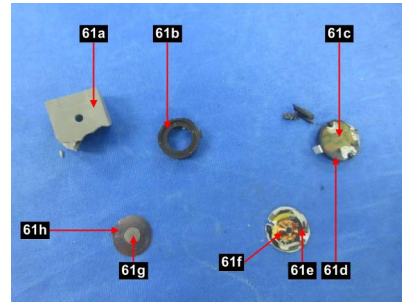
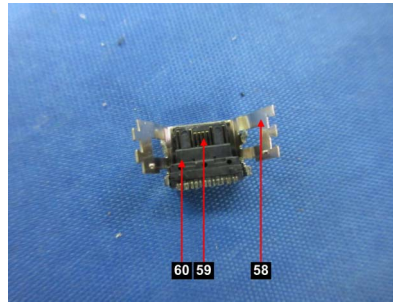
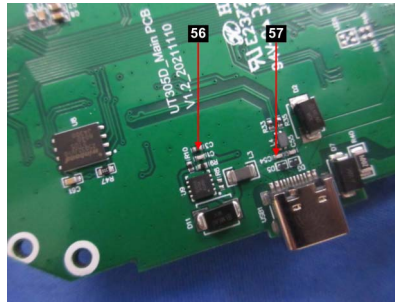




## Test Report

Number: GZHH00434591

### Tests Conducted



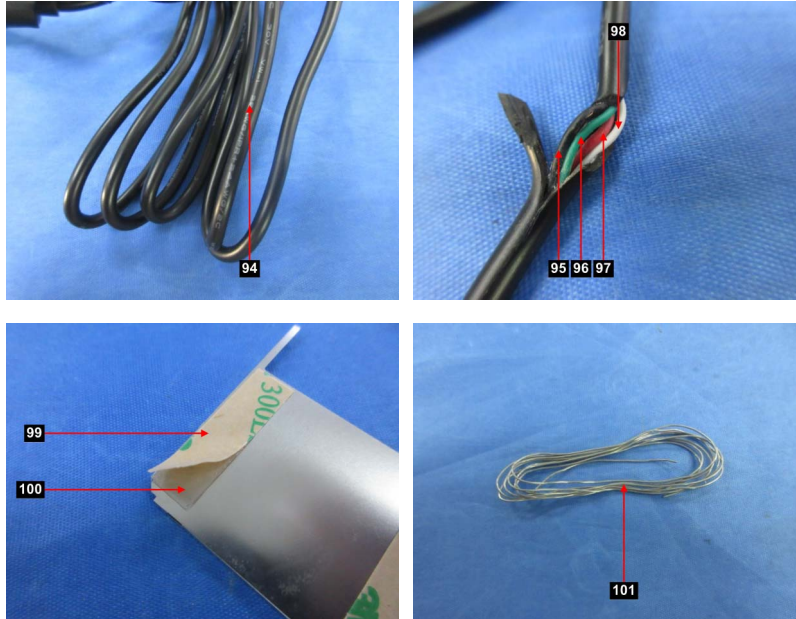
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## Test Report

Number: GZHH00434591

### Tests Conducted



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End of report

The statements of conformity reported have considered the decision rule agreed, namely that Intertek have taken account of measurement uncertainty as calculated by Intertek, and applied according to ILAC-G8/09:2019 (Non-binary acceptance based on guard band  $w = U$ ) except designation from the customer, regulation or test specification. This decision rule only applies to the numeric test results.

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