



# RoHS TEST REPORT

**APPLICANT** : ShenZhen Elink Technology Co. ,LTD  
**PRODUCT NAME** : BM16  
**MODEL NAME** : BM16  
**BRAND NAME** : Elink  
**TEST REQUEST** : Test as requested by client  
**RECEIPT DATE** : 2018-11-21  
**TEST DATE** : 2018-11-27 to 2018-12-03  
**ISSUE DATE** : 2018-12-04  
**CONCLUSION** : Based on the verification results of the submitted samples, the results of Lead,Mercury,Cadmium,Hexavalent chromium, Polybrominated biphenyls (PBBs),Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis (2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Butyl benzyl Phthalate (BBP), Diisobutyl phthalate (DIBP)comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Edited by : Deng Baijian  
Deng Baijian (Rapporteur)  
Approved by : Xiaoshan Ni  
Xiaoshan Ni (Supervisor)

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Change History		
Version	Date	Reason for change
1.0	2018-12-04	First edition



# 1. Technical Information

Note: Provided by applicant

## 1.1 Applicant Information

**Applicant** ShenZhen Elink Technology Co. ,LTD  
**Applicant Address** F4, Block A, Qiaohongshen CCI Garden, Yintian Industrial Park, Xixiang Bao'an District, Shenzhen City, Guangdong, China  
**Manufacturer** ShenZhen Elink Technology Co. ,LTD  
**Manufacturer Address** F4, Block A, Qiaohongshen CCI Garden, Yintian Industrial Park, Xixiang Bao'an District, Shenzhen City, Guangdong, China

## 2. Component Description

PART NO.	SAMPLE NO.	SAMPLE DESCRIPTION	SAMPLE MATERIAL
1	A	BM16	
2	A-1	CRYSTAL OSCILLATOR	COMPOSITE
3	A-2	RESISTOR	COMPOSITE
4	A-3	IC	COMPOSITE
5	A-4	SMD CAPACITOR	COMPOSITE
6	A-5	PCB	COMPOSITE
7	A-6	SOLDERING TIN	METAL

## 3. Test Methods

### 3.1. Screening test by XRF spectroscopy

**XRF screening limits in mg/kg for regulated elements according to IEC 62321-3-1:2013**

Element	Polymer	Metal	Composite Materials
Cd	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 50 - 3\sigma < D < 150 + 3\sigma \leq F$
Pb	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Hg	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Br	$P \leq 300 - 3\sigma < D$	----	$P \leq 250 - 3\sigma < D$
Cr	$P \leq 700 - 3\sigma < D$	$P \leq 700 - 3\sigma < D$	$P \leq 500 - 3\sigma < D$

Note: P = PASS

F = FAIL

The symbol “D” marks the region where further investigation is necessary.

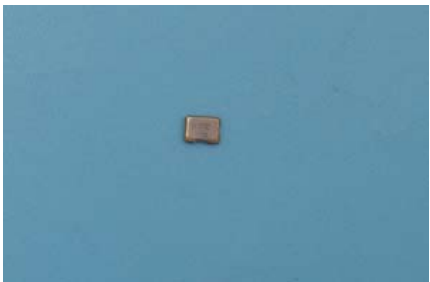

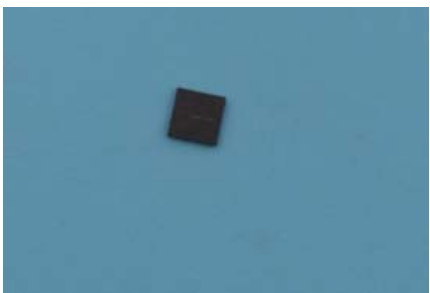

XRF testing results are only used for reference.



### 3.2. Chemical Test

Test item	Procedure	Apparatus	MDL(mg/kg)
Hg	With reference to IEC 62321-4:2013	ICP-OES	2
Cd & Pb	With reference to IEC 62321-5:2013	CV-AAS or ICP-OES	2
Cr <sup>6+</sup>	With reference to IEC 62321-7-2:2017 (For Polymer and Electronics)	UV-VIS	2
	With reference to IEC 62321-7-1:2015 <sup>▲</sup> (For Plating on Metals)		0.1ug/cm <sup>2</sup>
PBBs & PBDEs	With reference to IEC 62321-6:2015	GC-MS	5
Phthalates (DBP,BBP,DEHP,DIBP)	With reference to IEC 62321-8:2017	GC-MS	10

## 4. Test Results and Photographs of Sample

The results of XRF screening and chemical test (Unit: mg/kg)

No.	Sample No.	Figure	X-ray Screening		chemical test			Conclusion
			Element	Data	UV-Vis	ICP-OES	GC-MS	
1	A-1		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	P				
			Cr <sup>6+</sup>					
			PBBs					
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
2	A-2		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	P				
			Cr <sup>6+</sup>					
			PBBs					
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
3	A-3		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	P				
			Cr <sup>6+</sup>					
			PBBs					
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
4	A-4		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	P				
			Cr <sup>6+</sup>					
			PBBs					
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	

No.	Sample No.	Figure	X-ray Screening		chemical test			Conclusion
			Element	Data	UV-Vis	ICP-OES	GC-MS	
5	A-5		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	D				
			Cr <sup>6+</sup>					
			PBBs				N.D.	
			PBDEs				N.D.	
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP	N.D.				
6	A-6		Pb	P	/	/	/	Pass
			Cd	P				
			Hg	P				
			Cr	P				
			Br	/				
			Cr <sup>6+</sup>					
			PBBs					
			PBDEs					
			DBP					
			BBP					
			DEHP					
			DIBP					

#### Remark:

(1) mg/kg=ppm

(2) N.D. = Not Detected (< MDL);

(3)"/"= Not Conducted

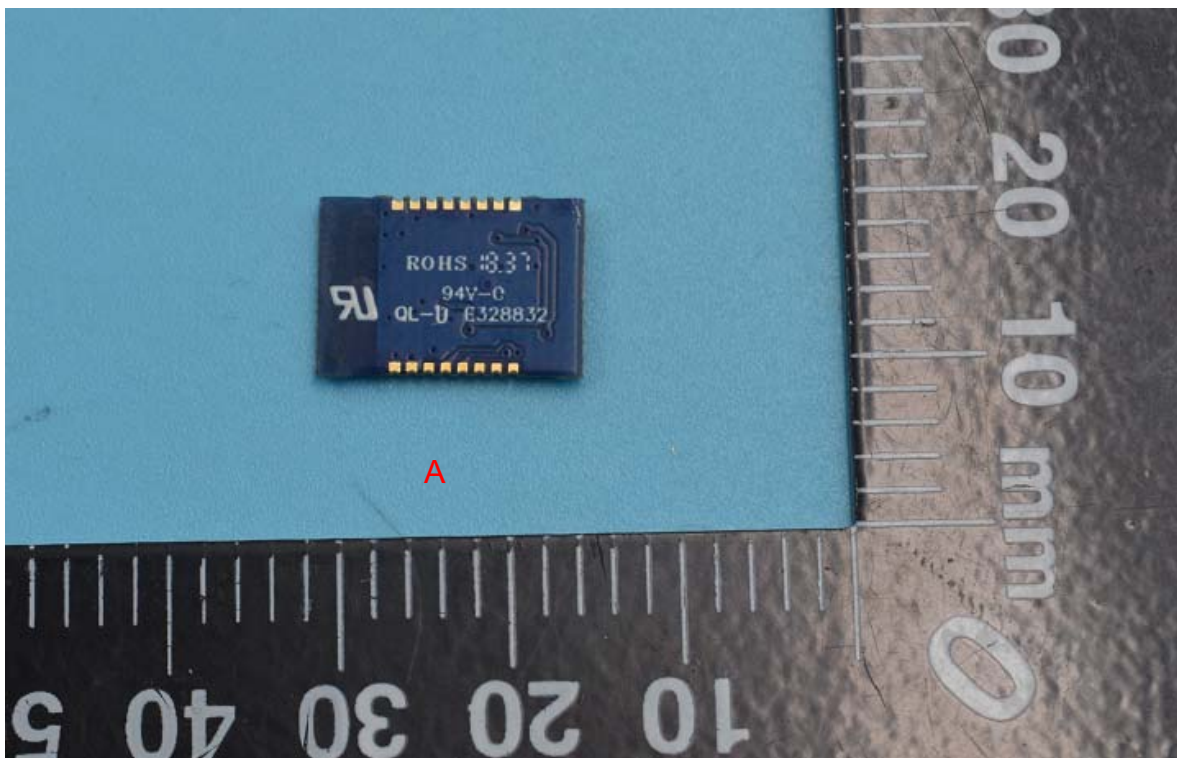
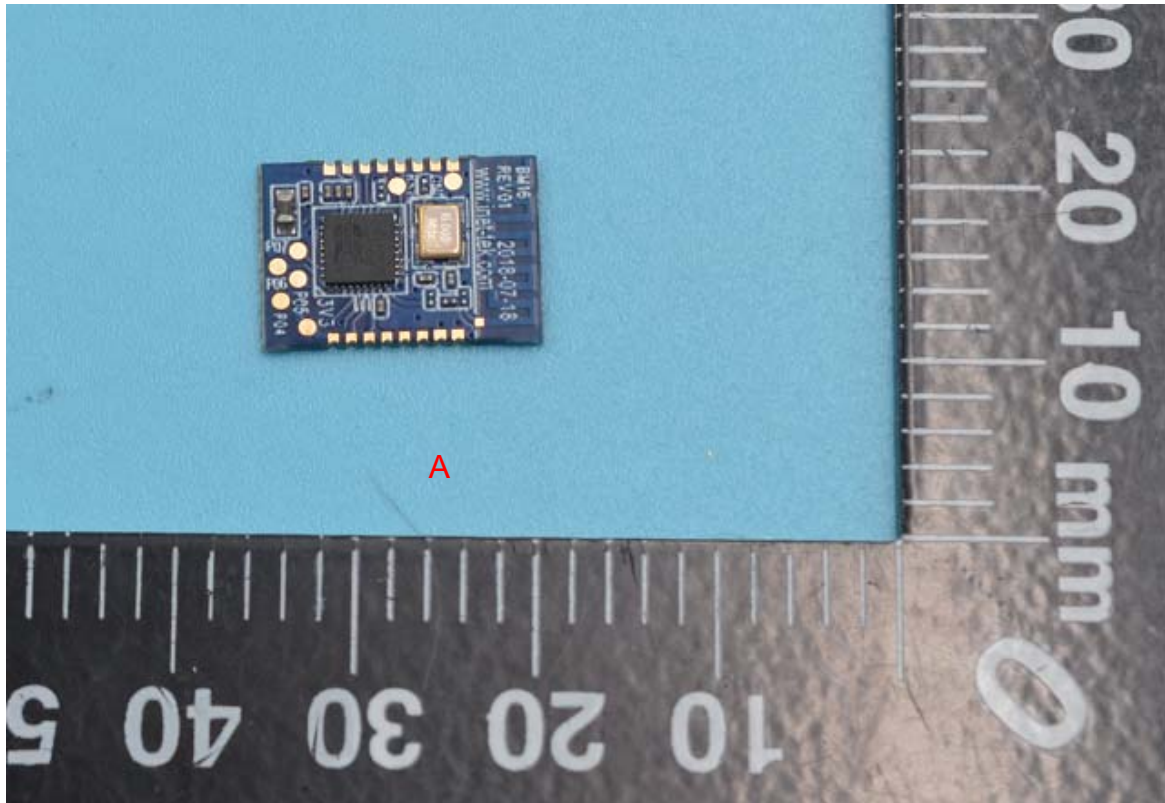
(4)MDL = Method Detection Limit

(5) ▲= a. The sample is negative for Cr<sup>6+</sup> - the Cr<sup>6+</sup> concentration is below the limit 0.10ug/cm<sup>2</sup>. The coating is considered a non-Cr<sup>6+</sup> based coating.

b. The sample positive for Cr<sup>6+</sup> if the Cr<sup>6+</sup> concentration is greater than 0.13ug/cm<sup>2</sup>. The sample coating is considered to contain Cr<sup>6+</sup>.

c. The result between 0.10ug/cm<sup>2</sup> and 0.13ug/cm<sup>2</sup> is considered to be inconclusive unavoidable coating variations may influence the determination.

## Annex A Photographs of the EUT





## Annex B General Information

### 1.1 Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

### 1.2 Test Equipments Utilized

No.	Equipment Name	Serial No.	Type	Manufacturer	Cal.Date	Cal.Due Date
1	X-Ray Fluorescence Spectroscopy(XRF)	0102	EDX-1800B	Skyray	2018.04.16	2019.04.16
2	gas chromatograph-mass spectrometer (GC-MS)	CN10617090	6890-5975I	Agilent	2018.04.16	2019.04.16
3	ultraviolet-visible spectrophotometer(UV-Vis)	0153	UV-1100	Labtech	2018.04.16	2019.04.16
4	IPC-OES	842320072001	iCAP7200	Thermo	2018.04.16	2019.04.16

\*\*\*\*\* END OF REPORT \*\*\*\*\*