

# RoHS TEST REPORT

APPLICANT : Shanghai Simcom Limited

PRODUCT NAME : SIM39EA

MODEL NAME : N/A

**BRAND NAME**: N/A

**TEST REQUEST**: Test as requested by client

**TEST DATE** : 2018-03-21 to 2018-03-28

**ISSUE DATE** : 2018-04-08

**CONCLUSION**: Based on the verification results of the submitted samples, the results

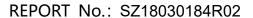
of Lead,Mercury,Cadmium,Hexavalent chromium, Polybrominated biphenyls (PBBs),Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis (2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Butyl benzyl Phthalate (BBP), Diisobutyl phthalate (DIBP)comply with the limits as set by RoHS Directive (EU) 2015/863

amending Annex II to Directive 2011/65/EU

Tested by : Liu Rui(Test engineer)

Approved by : Yiaashan Ni (Supervisor)

NOTE: This document is issued by MORLAB, the test report shall not be reproduced except in full without prior written permission of the company. The test results apply only to the particular sample(s) tested and to the specific tests carried out which is available on request for validation and information confirmed at our website.





## **DIRECTORY**

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## 1. Technical Information

Note: Provided by applicant

### 1.1 Applicant Information

**Applicant** Shanghai Simcom Limited

Building A,SIM Technology Building,No.633,Jinzhong Road,Changning **Applicant Address** 

Disdrict, Shanghai P.R. China 200335

Manufacturer N/A **Manufacturer Address** N/A

## 2. Component Description

Part No.	Sample No.	Sample Description	Sample Material
1	А	SIM39EA	
2	A-1	X00012100211	COMPOSITE
3	A-2	X00012100149	COMPOSITE
4	A-3	X00012100305	COMPOSITE
5	A-4	X00012100229	COMPOSITE
6	A-5	X00012100153	COMPOSITE
7	A-6	X00012020789	COMPOSITE
8	A-7	X00012100088	COMPOSITE
9	A-8	X00012100120	COMPOSITE
10	A-9	X00012100152	COMPOSITE
11	A-10	X00012100214	COMPOSITE
12	A-11	X00012020001	COMPOSITE
13	A-12	X00011000335	COMPOSITE
14	A-13	X00011000336	COMPOSITE
15	A-14	X00014100232	COMPOSITE
16	A-15	X00014100395	COMPOSITE



Part No.	Sample No.	Sample Description	Sample Material
17	A-16	X00014120072	COMPOSITE
18	A-17	X00014100484	COMPOSITE
19	A-18	X00014200098	COMPOSITE
20	A-19	X00014220054	COMPOSITE
21	A-20	X00015100030	COMPOSITE
22	A-21	X00015100036	COMPOSITE
23	A-22	X00015120214	COMPOSITE
24	A-23	X00013000243	COMPOSITE
25	A-24	X00013600031	COMPOSITE
26	A-25	X00013020047	COMPOSITE
27	A-26	X00021121321	COMPOSITE
28	A-27	X00021122447	COMPOSITE
29	A-28	X00012100426	COMPOSITE
30	A-29	X00014100431	COMPOSITE
31	A-30	X00014120068	COMPOSITE
32	A-31	X00027220624	METAL
33	A-32	X00024022356	COMPOSITE



## 3. Test Methods

## 3.1. Screening test by XRF spectroscopy

Element	Polymer	Metal	Composite Materials
Cd	P≤70-3σ <d<130+3σ≤f< td=""><td>P≤70-3σ<d<130+3σ≤f< td=""><td>P≤50-3σ<d<150+3σ≤f< td=""></d<150+3σ≤f<></td></d<130+3σ≤f<></td></d<130+3σ≤f<>	P≤70-3σ <d<130+3σ≤f< td=""><td>P≤50-3σ<d<150+3σ≤f< td=""></d<150+3σ≤f<></td></d<130+3σ≤f<>	P≤50-3σ <d<150+3σ≤f< td=""></d<150+3σ≤f<>
Pb	P≤700-3σ <d<1300+3σ≤f< td=""><td>P≤700-3σ<d<1300+3σ≤f< td=""><td>P≤500-3σ<d<1500+3σ≤f< td=""></d<1500+3σ≤f<></td></d<1300+3σ≤f<></td></d<1300+3σ≤f<>	P≤700-3σ <d<1300+3σ≤f< td=""><td>P≤500-3σ<d<1500+3σ≤f< td=""></d<1500+3σ≤f<></td></d<1300+3σ≤f<>	P≤500-3σ <d<1500+3σ≤f< td=""></d<1500+3σ≤f<>
Hg	P≤700-3σ <d<1300+3σ≤f< td=""><td>P≤700-3σ<d<1300+3σ≤f< td=""><td>P≤500-3σ<d<1500+3σ≤f< td=""></d<1500+3σ≤f<></td></d<1300+3σ≤f<></td></d<1300+3σ≤f<>	P≤700-3σ <d<1300+3σ≤f< td=""><td>P≤500-3σ<d<1500+3σ≤f< td=""></d<1500+3σ≤f<></td></d<1300+3σ≤f<>	P≤500-3σ <d<1500+3σ≤f< td=""></d<1500+3σ≤f<>
Br	P≤300-3σ <d< td=""><td></td><td>P≤250-3σ<d< td=""></d<></td></d<>		P≤250-3σ <d< td=""></d<>
Cr	P≤700-3σ <d< td=""><td>P≤700-3σ<d< td=""><td>P≤500-3σ<d< td=""></d<></td></d<></td></d<>	P≤700-3σ <d< td=""><td>P≤500-3σ<d< td=""></d<></td></d<>	P≤500-3σ <d< td=""></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)	LIVAVIC	2
Ci	With reference to IEC 62321-7-1:2015 <sup>♣</sup> (For Plating on Metals)	UV-VIS	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	reening and chemical test (Unit: mg  Figure		creening	C	chemical tes	t
INO.	No.	riguie	Element	Data	UV-Vis	ICP-OES	GC-MS
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			,
			Br	N.D.			/
_	۸.4	a property and the second	Cr <sup>6+</sup>		,	,	
1	A-1		PBBs		/	/	
		- 10 Marie 196	PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			,
		8	Br	N.D.			/
0	A 0	The second secon	Cr <sup>6+</sup>		,	,	
2	A-2	A CONTRACTOR OF THE CONTRACTOR	PBBs		/	/	
		A. *	PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			,
		Suntail	Br	N.D.			,
3	A-3	## ··	Cr <sup>6+</sup>		/	/	
	A-3		PBBs			,	
		100	PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			/
			Br 2 6+	N.D.			
4	A-4		Cr <sup>6+</sup>		1	/	
	-		PBBs				
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.



	Sample		X-ray S	creening		chemical tes	t
No.	No.	Figure	Element	Data	UV-Vis	ICP-OES	GC-MS
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			
			Br	N.D.			/
_	A =		Cr <sup>6+</sup>		,	,	
5	A-5		PBBs		/	/	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			/
		L'an	Br - 6+	N.D.			
6	A-6	The state of the s	Cr <sup>6+</sup>		1	/	
		a self-tr	PBBs				
		\$	PBDEs	-			ND
			DBP				N.D.
		TOWN TO AN ADVANCED BY THE SECOND	BBP DEHP				N.D.
			DIBP				N.D. N.D.
			Pb	N.D.			N.D.
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			/
		- F - S	Br	N.D.			
7	A-7	A. E	Cr <sup>6+</sup>		1	/	
			PBBs				
			PBDEs				
			DBP				N.D.
		3,43,50	BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			/
		and the same of th	Br	N.D.			′
8	A-8		Cr <sup>6+</sup>		/	/	
	A <del>-</del> 0		PBBs			,	
			PBDEs	_			
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.



No	Sample	Figure	X-ray So	creening	C	chemical tes	t
No.	No.	Figure	Element	Data	UV-Vis	ICP-OES	GC-MS
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			1
		A -	Br	N.D.			/
9	A-9		Cr <sup>6+</sup>		/	/	
	71-5		PBBs		,	,	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP	ND			N.D.
			Pb Cd	N.D. N.D.			
			Hg	N.D.			
		8	Cr	N.D.			
		8.6	Br	N.D.			1
		A.	Cr <sup>6+</sup>	11.5.			
10	A-10		PBBs		/	/	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			,
			Br	N.D.			/
		a He	Cr <sup>6+</sup>		_		
11	A-11	***	PBBs		/	/	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			14.0.
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			
		*	Br	N.D.			/
40	A 40		Cr <sup>6+</sup>		,	,	
12	A-12	₹ 3× ;+	PBBs		/	/	
		F * F	PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.



No.   Sample   No.   Figure     X-ray Screening   Chemica	S GC-MS  /  N.D.  N.D.  N.D.  N.D.  N.D.
Cd N.D.   Hg N.D.   Cr N.D.   Br N.D.   / PBBs   PBDEs   DBP   BBP   DEHP   DIBP   Pb N.D.   Cd N.D.   Hg N.D.   Cr N.D.   Hg N.D.   Cr N.D.   Br N.D.   Cr N.D.   Br N.D.   Cr N.D.   Br N.D.   Cr N.D.   C	N.D. N.D. N.D.
Cd N.D.   Hg N.D.   Cr N.D.   Br N.D.   / PBBs   PBDEs   DBP   BBP   DEHP   DIBP   Pb N.D.   Cd N.D.   Hg N.D.   Cr N.D.   Hg N.D.   Cr N.D.   Br N.D.   Cr N.D.   Br N.D.   Cr N.D.   Br N.D.   Cr N.D.   C	N.D. N.D. N.D.
Hg   N.D.     Cr   N.D.   Br   N.D.     / PBBs   PBDEs   DBP   BBP   DEHP   DIBP   Pb   N.D.   Cd   N.D.   Hg   N.D.   Cr   N.D.   Br   N.D.   Cr   N.D.   Br   N.D.   Cr   N.D.   Br   N.D.   Cr   N.D.   Cr   N.D.   Br   N.D.   Cr   Cr   Cr   Cr   Cr   Cr   Cr   C	N.D. N.D. N.D.
13	N.D. N.D. N.D.
Br   N.D.	N.D. N.D. N.D.
13	N.D. N.D.
PBBs	N.D. N.D.
DBP   BBP   DEHP   DIBP   Pb   N.D.   Cd   N.D.   Hg   N.D.   Cr   N.D.   Br   N.D.	N.D. N.D.
BBP   DEHP   DIBP   Pb   N.D.   Cd   N.D.   Hg   N.D.   Cr   N.D.   Br   N.D.	N.D. N.D.
DEHP   DIBP   Pb   N.D.   Cd   N.D.   Hg   N.D.   Cr   N.D.   Br   N.D.	N.D.
DIBP	
Pb   N.D.     Cd   N.D.     Hg   N.D.     Cr   N.D.     Br   N.D.	N.D.
Cd         N.D.           Hg         N.D.           Cr         N.D.           Br         N.D.	
Hg   N.D.     Cr   N.D.   Br   N.D.	
Cr N.D. Br N.D.	
Br N.D.	
	,
- 6+	,
14 A-14 Cr <sup>6+</sup>	
PBBs	
PBDEs PBDEs	
DBP	N.D.
BBP	N.D.
DEHP DEHP	N.D.
DIBP	N.D.
Pb N.D.	
Cd N.D.	
Hg N.D.	
Cr N.D.	,
Br N.D.	,
Cr <sup>6+</sup>	
PBBs PBBs	
PBDEs	
DBP	N.D.
BBP	N.D.
DEHP	N.D.
DIBP	N.D.
Pb N.D.	IN.D.
Cd N.D.	
Hg N.D.	
Tig N.D.  Cr N.D.	
Br N.D.	/
C,6+	
16 A-16 PBBs / /	
PBDEs	
DBP	N.D.
BBP	N.D.
DEHP	N.D.
DIBP	N.D.



	Sample		X-ray S	creening	(	chemical tes	t	
No.	No.	Figure	Element	Data	UV-Vis	ICP-OES	GC-MS	
			Pb	N.D.				
			Cd	N.D.				
			Hg	N.D.				
			Cr	N.D.				
			Br	N.D.			1	
		<b>1985</b>	Cr <sup>6+</sup>					
17	A-17		PBBs	-	/	/		
			PBDEs					
			DBP	•			N.D.	
			BBP				N.D.	
			DEHP	-			N.D.	
			DIBP	-			N.D.	
			Pb	2.5×10 <sup>3</sup>		&5.5×10 <sup>4</sup>		
			Cd	N.D.				
			Hg	N.D.				
			Cr	N.D.			,	
			Br	N.D.			/	
18	A-18		Cr <sup>6+</sup>		,			
10	A-10		PBBs		/	/		
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
			Pb	N.D.				
				Cd	N.D.			
			Hg	N.D.			,	
				Cr	N.D.			/
			Br	943.4				
	A-19		Cr <sup>6+</sup>					
19		A-19		PBBs	-	1	/	N.D.
				PBDEs	-			N.D.
			DBP	-			N.D.	
		The second secon		-				
			BBP	-			N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
			Pb	N.D.				
			Cd	N.D.				
			Hg	N.D.				
			Cr	N.D.			/	
		466 175	Br O::6+	N.D.				
20	A-20		Cr <sup>6+</sup>	-	1	1		
			PBBs	-				
			PBDEs	-			ND	
			DBP	-			N.D.	
			BBP DEHP				N.D.	
				-			N.D.	
			DIBP	l			N.D.	



	Sample		X-ray S	creening	C	chemical tes	t
No.	No.	Figure	Element	Data	UV-Vis	ICP-OES	GC-MS
			Pb	N.D.			
			Cd	N.D.			
		A STATE OF THE STA	Hg	N.D.			
			Cr	N.D.			
			Br	N.D.			1
		1.346	Cr <sup>6+</sup>	N.D.			
21	A-21		PBBs		/	/	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			IN.D.
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			
		- Start	Br	N.D.			/
			Cr <sup>6+</sup>	N.D.			
22	A-22	f-ills*	PBBs		/	/	
			PBDEs				
		*					ND
			DBP				N.D.
			BBP				N.D.
			DEHP DIBP				N.D. N.D.
			Pb	N.D.			N.D.
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			1
			Br	N.D.			
23	A-23		Cr <sup>6+</sup>		1	/	
23	A-23		PBBs		,	,	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			IN.D.
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			
			Br	N.D.			1
			Cr <sup>6+</sup>	IN.D.			
24	A-24	W 2	PBBs		1	/	
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			ן טוסר				וא.ט.



	Sample		X-rav So	creening	(	chemical tes		
No.	No.	Figure	Element	Data	UV-Vis	ICP-OES	GC-MS	
			Pb	N.D.	0	.0. 020		
			Cd	N.D.				
			Hg	N.D.				
			Cr	N.D.				
			Br	N.D.			/	
			Cr <sup>6+</sup>					
25	A-25		PBBs		/	/		
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
			Pb	N.D.				
			Cd	N.D.				
			Hg	N.D.			1	
		C	Cr	N.D.			,	
			Br	968.13				
26	A-26		Cr <sup>6+</sup>		1	/		
20	A-20	A-20	A-20	PBBs		,	,	N.D.
			PBDEs				N.D.	
		The Paris Pa	DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
			Pb	N.D.				
			Cd	N.D.				
			, huntana	Hg	N.D.			
				Cr	N.D.			,
		7/追海海源。	Br	N.D.			,	
27	4.07		Cr <sup>6+</sup>		/	,		
21	A-27		PBBs		/	/		
			PBDEs					
		A Bushac . San D E	DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	
			Pb	N.D.			11.0.	
			Cd	N.D.				
			Hg	N.D.				
			Cr	N.D.				
		\$° 100	Br	N.D.			/	
60		\$ <b>3</b>	Cr <sup>6+</sup>		,	,		
28	A-28	**************************************	PBBs		/	1		
			PBDEs					
			DBP				N.D.	
			BBP				N.D.	
			DEHP				N.D.	
			DIBP				N.D.	



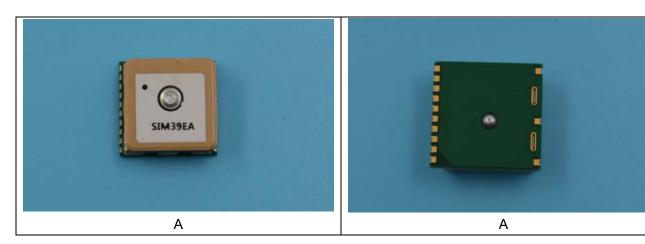
N-	Sample No.	Figure	X-ray Screening		chemical test		
No.			Element	Data	UV-Vis	ICP-OES	GC-MS
29	A-29		Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			1
			Br	N.D.			/
			Cr <sup>6+</sup>		/	/	
			PBBs				
			PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
			Pb	N.D.			
			Cd	N.D.			
			Hg	N.D.			
	A-30		Cr Br	N.D.			/
		-guilt	Cr <sup>6+</sup>	N.D.			
30		يه ۵۰ وبه بني	PBBs		1	/	
		المعارض المعار	PBDEs				
			DBP				N.D.
			BBP				N.D.
			DEHP		N.D.		
			DIBP				N.D.
	A-31		Pb	N.D.	/	/	
			Cd	N.D.			
			Hg	N.D.			
			Cr	N.D.			
			Br	N.D.			/
		To GO ON	Cr <sup>6+</sup>	11.5.			
31			PBBs				
			PBDEs				
							ND
			DBP				N.D.
			BBP				N.D.
			DEHP				N.D.
			DIBP				N.D.
	A-32		Pb	N.D.			
			Cd	N.D.			
32			Hg	N.D.			
			Cr Br	N.D.			
			Cr <sup>6+</sup>	/			
			PBBs		1	/	/
			PBDEs				
			DBP				
			BBP				
			DEHP				
			DIBP				
	<u> </u>		וטוט	l	l .	j	



#### Remark:

- (1) mg/kg=ppm
- (2) N.D. = Not Detected (< MDL);
- (3)"/"= Not Conducted
- (4)MDL = Method Detection Limit
- (5)  $\triangleq$  a. The sample is negative for  $Cr^{6+}$  the  $Cr^{6+}$  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.
- (6)& = Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound. The item is exempted from the requirements of the item 7(c)- I in ANNEX III, (Directive 2011/65/EU).

## **Annex A Photographs of the EUT**





## **Annex B General Information**

## 1.1 Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.			
Department:	Morlab Laboratory			
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China			
Responsible Test Lab Manager:	Mr. Su Feng			
Telephone:	+86 755 36698555			
Facsimile:	+86 755 36698525			

## 1.2 Test Equipment Utilized

No.	Equipment Name	Serial No.	Туре	Manufacturer	Cal.Date	Cal.Due Date
1	X-Ray Fluorescence	0102	EDX-1800B	Skyray	2017.05.23	2018.05.23
	Spectroscopy(XRF)					
2	gas chromatograph-mass	CN10617090	6890-59751	Agilent	2017.05.23	2018.05.23
	spectrometer (GC-MS)	CN 100 17 090				
3	ultraviolet-uisible	0153	UV-1100	Labtech	2017.05.23	2018.05.23
	spectrophotometer(UV-Vis)					
4	IPC-OES	842320072001	iCAP7200	Thermo	2017.05.23	2018.05.23

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