



TEST REPORT

REPORT No.: R2SH180201F0042E

Date: March 13, 2018

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Shanghai SIMCom Wireless Solutions Co., Ltd
SIM Technology Building, No. 633, Jinzhong Road, Changning District, Shanghai P. R. China

Report on the submitted samples said to be:

Sample Name : GSM/ GPRS Module
Style/ Item No. : SIM800H/ SIM800L
Manufacturer : Shanghai SIMCom Wireless Solutions Co., Ltd
Sample Receiving Date : February 2, 2018
Testing Period : From February 2, 2018 to March 13, 2018
Results : Please refer to next page(s).

Summary of Test Results:

TEST REQUEST

CONCLUSION

A EU RoHS Directive 2011/65/EU and its amendment directives
Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content **Pass**
Phthalates(DBP、BBP、DEHP、DIBP)content **Pass**

Signed for and on behalf of
BACL

Checked by: _____
Jane Xu
Technical Supervisor

Approved by: _____
William Wei
Laboratory Manager

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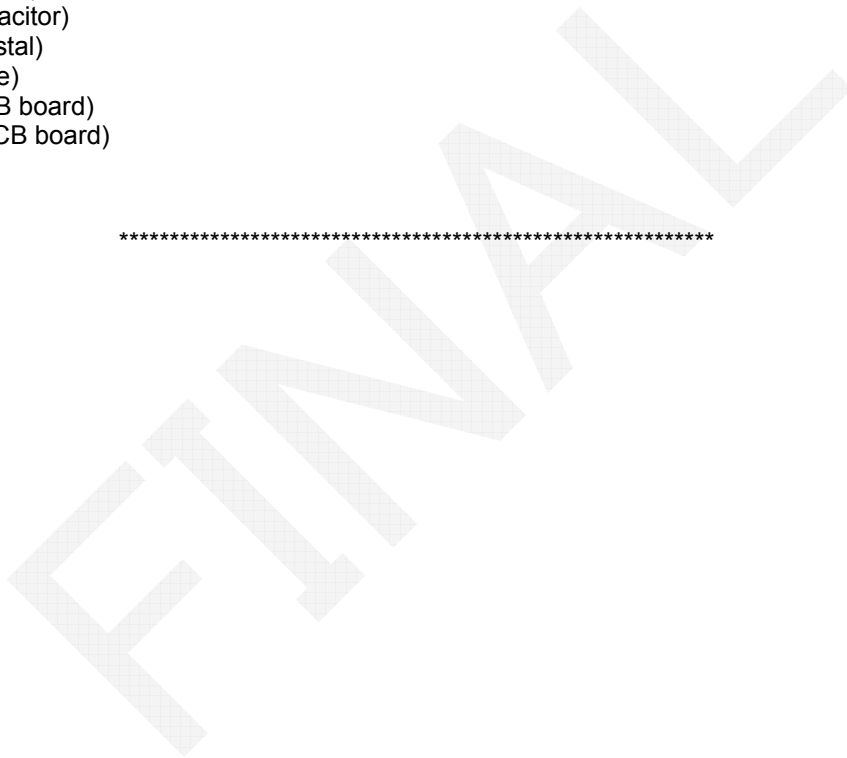
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Results:

Tested part(s):

- (1) Black/red printed white/brown adhesive plastic(label)
- (2) Silvery metal(shield)
- (3) Black body(IC)
- (4) Black body(resister)
- (5) Brown body(capacitor)
- (6) Silvery body(crystal)
- (7) Black body(triode)
- (8) Green PCB (PCB board)
- (9) Silvery solder(PCB board)



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A. EU RoHS Directive 2011/65/EU and its amendment directives

Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs & PBDEs content

Test method:

Lead & Cadmium Content:

With reference to IEC62321-5:2013, by acid digestion and analysis was performed by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES) or Atomic Absorption Spectrometry (AAS).

Mercury Content:

With reference to IEC 62321-4:2013+AMD1:2017, by acid digestion and analysis was performed by Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES)

Hexavalent Chromium Content (For metal material):

With reference to IEC 62321-7-1:2015, by boiling-water-extraction and analysis was performed by UV-visible spectrophotometer (UV-Vis)

Hexavalent Chromium Content (For non-metal material):

With reference to IEC 62321-7-2:2017, by solvent extraction and analysis was performed by UV-visible spectrophotometer (UV-Vis)

PBBs & PBDEs Content:

With reference to IEC 62321-6:2015, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS)

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Items	Unit	MDL	Results				Limit
			(1)	(3)	(4)	(5)	
Lead Content (Pb)	mg/kg	10	N.D.	N.D.	22	N.D.	1000
Cadmium Content (Cd)	mg/kg	10	N.D.	N.D.	N.D.	N.D.	100
Mercury Content (Hg)	mg/kg	10	N.D.	N.D.	N.D.	N.D.	1000
Hexavalent Chromium (Cr(VI))	mg/kg	10	N.D.	N.D.	N.D.	N.D.	1000
Polybrominated Biphenyls (PBBs)							
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)							
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	Pass	/

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Items	Unit	MDL	Results			Limit
			(6)	(7)	(8)	
Lead Content (Pb)	mg/kg	10	N.D.	N.D.	N.D.	1000
Cadmium Content (Cd)	mg/kg	10	N.D.	N.D.	N.D.	100
Mercury Content (Hg)	mg/kg	10	N.D.	N.D.	N.D.	1000
Hexavalent Chromium (Cr(VI))	mg/kg	10	N.D.	N.D.	N.D.	1000
Polybrominated Biphenyls (PBBs)						
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)						
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	Pass	/

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Items	Unit	MDL	Results		Limit
			(2)	(9)	
Lead Content (Pb)	mg/kg	10	N.D.	274	1000
Cadmium Content (Cd)	mg/kg	10	N.D.	N.D.	100
Mercury Content (Hg)	mg/kg	10	N.D.	N.D.	1000
Hexavalent Chromium (Cr(VI))	µg/cm ²	0.10	N.D.	N.D.	**
Polybrominated Biphenyls (PBBs)					
Monobromobiphenyl	mg/kg	5	N.D.	N.D.	
Dibromobiphenyl	mg/kg	5	N.D.	N.D.	
Tribromobiphenyl	mg/kg	5	N.D.	N.D.	
Tetrabromobiphenyl	mg/kg	5	N.D.	N.D.	
Pentabromobiphenyl	mg/kg	5	N.D.	N.D.	
Hexabromobiphenyl	mg/kg	5	N.D.	N.D.	
Heptabromobiphenyl	mg/kg	5	N.D.	N.D.	
Octabromobiphenyl	mg/kg	5	N.D.	N.D.	
Nonabromodiphenyl	mg/kg	5	N.D.	N.D.	
Decabromodiphenyl	mg/kg	5	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	1000
Polybrominated Diphenylethers (PBDEs)(Mon-Deca)					
Monobromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Dibromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Tribromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Tetrabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Pentabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Hexabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Heptabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Octabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Nonabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Decabromodiphenyl ether	mg/kg	5	N.D.	N.D.	
Total content	mg/kg	/	N.D.	N.D.	1000
Conclusion	/	/	Pass	Pass	/

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Phthalates(DBP, BBP, DEHP, DIBP)content

Test method: With reference to IEC 62321-8:2017, by gas chromatographic-mass spectrometer (GC-MS)

Item	Unit	MDL	Results			Limit
			(1)	(2)	(3)	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	/	/	Pass	Pass	Pass	/

Item	Unit	MDL	Results			Limit
			(4)	(5)	(6)	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	/	/	Pass	Pass	Pass	/

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Item	Unit	MDL	Results			Limit
			(7)	(8)	(9)	
Dibutyl Phthalate (DBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Benzylbutyl Phthalate (BBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	N.D.	N.D.	N.D.	0.1
Diisobutyl Phthalate(DIBP)	%	0.003	N.D.	N.D.	N.D.	0.1
Conclusion	/	/	Pass	Pass	Pass	/

Note:

- The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- N.D. = Not Detected or less than MDL
- MDL = Method Detection Limit
- The results less than MDL are not taken into account while calculating the sum contents.
- mg/kg = ppm
- ** =
 - a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13µg/cm². The sample coating is considered to contain CrVI
 - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10µg/cm²). The coating is considered a non-CrVI based coating
 - c. The result between 0.10µg/cm² and 0.13µg/cm² is considered to be inconclusive -unavoidable coating variations may influence the determination

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

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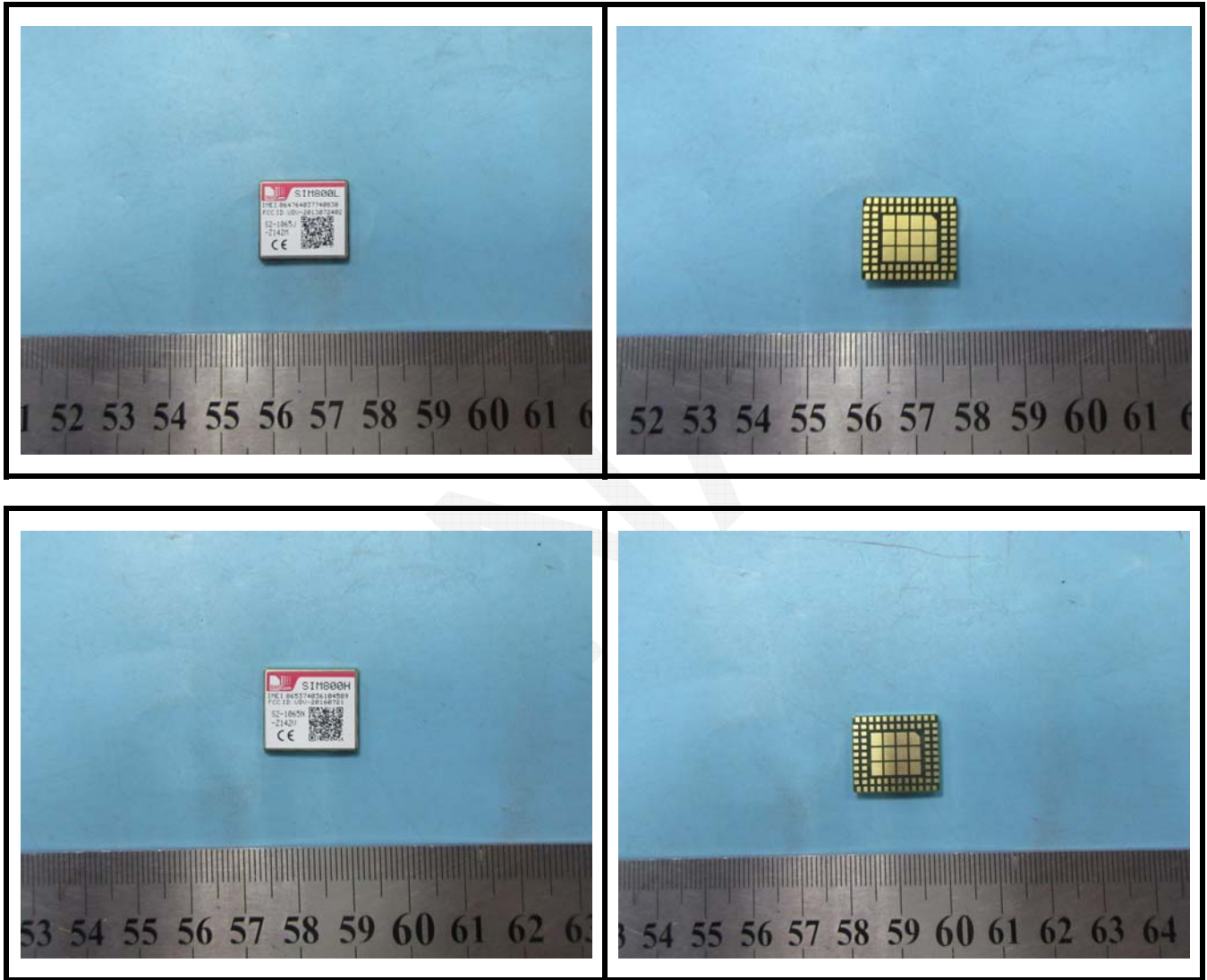
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Photograph of Sample



BACL authenticate the photo on original report only

*** End of Report ***

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