



**Test Report**

No. 3494776-CH01-R2

Date: July 2, 2014

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**Transko Electronics, Inc.  
3981 E. Miraloma Ave.  
Anaheim, CA 92806  
United States**

*This report supersedes all previous documents bearing the test report number 3494776-CH01-R1.*

The following sample(s) was/were submitted and identified by/on behalf of the client as:

**Ceramic SMD crystal  
Model/Part No.: CS series**

Sample Received Date: **5/15/2014**

Testing Period: **5/17/2014 – 5/29/2014**

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Comment
European Directive 2011/65/EU Annex II (RoHS); recasting 2002/95/EC	PASS

Signed for and on behalf of SGS North America, Inc.

Prepared By:

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Laboratory Manager, Chemistry Laboratory

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### 1. European Directive 2011/65/EU Annex II (RoHS); recasting 2002/95/EC:

Cadmium, Lead, Mercury, Hexavalent Chromium, Polybromobiphenyl (PBB) and Polybromodiphenyl ether (PBDE) content

Method : With reference to IEC 62321-5:2013. Lead, Cadmium and Mercury were analyzed by Inductively Coupled Argon Plasma Spectrometry, Chromium (VI) was analyzed by UV-Visible Spectroscopy and PBB, PBDE were analyzed by Gas Chromatography – Mass Spectrometry (GC-MS).

Test Item	Result (mg/kg)	Detection Limit (mg/kg)	Permissible Limit (mg/kg)
	1		
Cadmium (Cd)	ND	2	100
Lead (Pb)	7	2	1000
Mercury (Hg)	ND	2	1000
Hexavalent Chromium (Cr(VI))	ND	2	1000
<b>Sum of PBBs</b>	ND	--	1000
Monobromobiphenyl	ND	5	--
Dibromobiphenyl	ND	5	--
Tribromobiphenyl	ND	5	--
Tetrabromobiphenyl	ND	5	--
Pentabromobiphenyl	ND	5	--
Hexabromobiphenyl	ND	5	--
Heptabromobiphenyl	ND	5	--
Octabromobiphenyl	ND	5	--
Nonabromobiphenyl	ND	5	--
Decabromobiphenyl	ND	5	--
<b>Sum of PBDEs</b>	ND	--	1000
Monobromodiphenyl ether	ND	5	--
Dibromodiphenyl ether	ND	5	--
Tribromodiphenyl ether	ND	5	--
Tetrabromodiphenyl ether	ND	5	--
Pentabromodiphenyl ether	ND	5	--
Hexabromodiphenyl ether	ND	5	--
Heptabromodiphenyl ether	ND	5	--
Octabromodiphenyl ether	ND	5	--
Nonabromodiphenyl ether	ND	5	--
Decabromodiphenyl ether	ND	5	--
<b>Comment</b>	PASS	--	--

#### Sample Description:

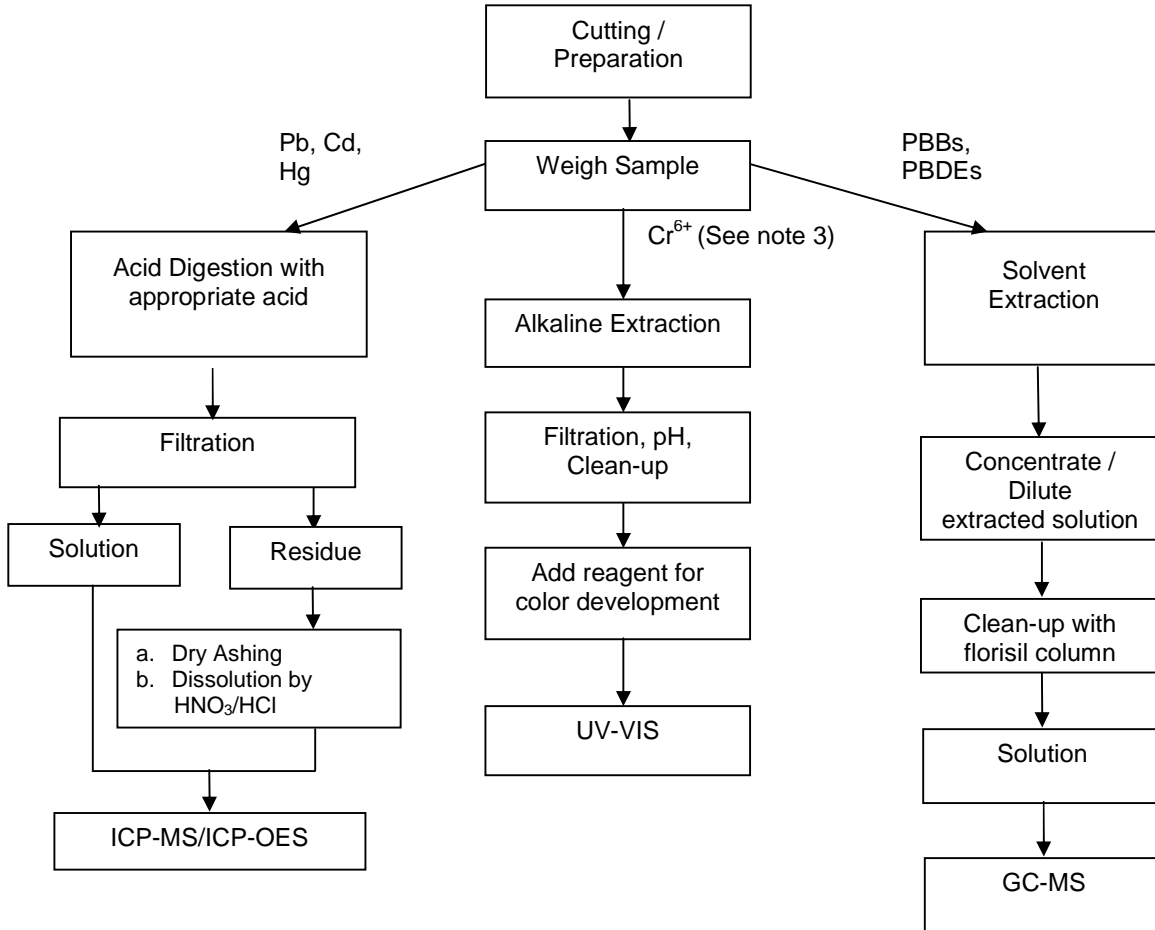
##### 1. CS Series

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Note :

1. ND = Not Detected = denoted less than reporting limit

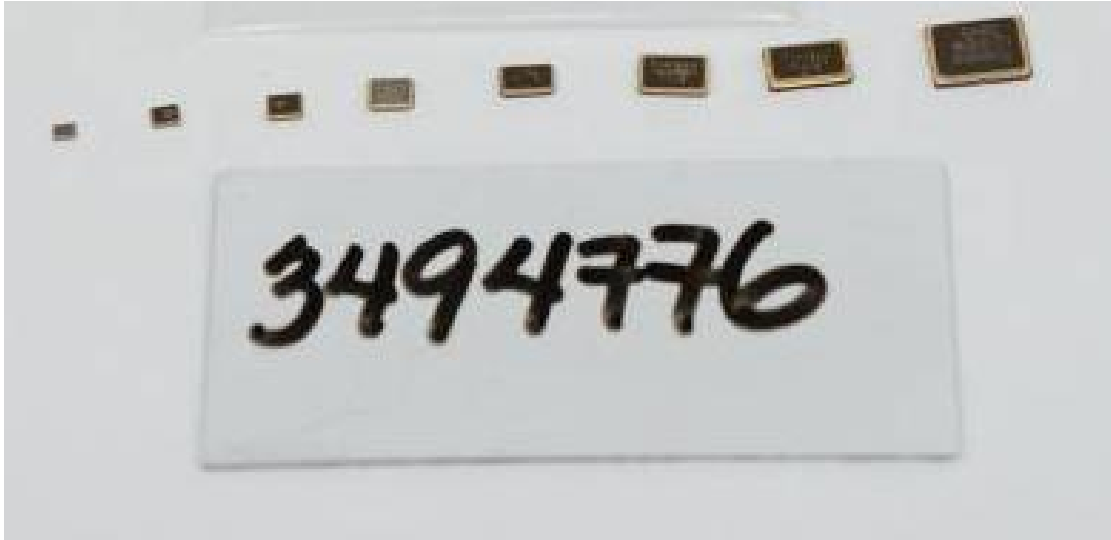
**Flowchart for RoHS:**



- Note :
1. For Cr(VI), spot test is adopted for metal sample.
  2. The Cd, Pb and Hg contents test on polymeric samples were dissolved totally by pre-conditioning method according to above flow chart.
  3. Cr<sup>6+</sup> is performed only when total Cr is detected

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**Sample Photo:**



SGS authenticates the photo on the original report only

\*\*\* End of Report \*\*\*

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