

<b>Company</b>		<b>DUNS#</b>	<b>URL For Additional Information</b>
National Semiconductor		04-147-2986	<a href="http://www.national.com/analog/quality/green">http://www.national.com/analog/quality/green</a>

<b>Contact</b>	<b>Title</b>	<b>Phone</b>	<b>Email</b>
Lorena Dudman	Product Stewardship Eng. Mgr	1-408-721-8180	Green.Project@nsc.com

<b>Part Number</b>	<b>MSL Rating</b>	<b>Peak Body Temp C</b>	<b>MaxTime(Sec)</b>	<b>Cycles</b>	<b>Unit Type</b>
SCANSTA101SMX NOPB	4	260	40	4	Each

<b>Document Date</b>	European RoHS Compliant. China RoHS Compliant.	<b>Weight (mg)</b>	Does NOT Contain Halogens
07-21-2011		120.42	

### Material Composition Declaration for Electronic Products

Item	Weight (mg)	Component	CAS#	Weight (mg)	Item-ppm	Part-ppm
Plastic	61.910	SiO2	60676-86-0	55.719	900,000	462,709
		Epoxy Resin	25928-94-3	6.191	100,000	51,412
Chip	5.730	Si	7440-21-3	5.696	994,000	47,302
		Al	7429-90-5	0.034	6,000	282
Substrate	33.220	BT	N/A	13.620	410,000	113,105
		Cu	7440-50-8	11.029	332,000	91,589
		Solder Mask	N/A	4.319	130,000	35,866
		Ni	7440-02-0	3.654	110,000	30,344
		Au	7440-57-5	0.598	18,000	4,966
Solder Balls	18.089	Sn	7440-31-5	17.366	960,000	144,213
		Ag	7440-22-4	0.633	35,000	5,257
		Cu	7440-50-8	0.090	5,000	747
Die Attach	0.740	Ag	7440-22-4	0.555	750,000	4,609
		Bismaleimide (resin)	13676-54-5	0.185	250,000	1,536
Wires	0.730	Au	7440-57-5	0.730	1,000,000	6,062

**Note:** The device content disclosed herewith is approximate and is based on engineering estimates only. It has not been verified through analytical testing.

Additionally, the following should be noted:

- One or more dopant materials may be present in the silicon die at sub-ppm levels to provide semiconductor properties.
- Epoxy resin components listed are generic and may or may not be the specific compound used, which is considered proprietary.

### RoHS Material Composition Declaration

<b>RoHS Directive 2002/95/EC</b>	RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium
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Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.

- National products designated "ROHS Compliant" comply with the European Unions Directive on the Restriction of the Use of Hazardous Substances 2002/95/EC ("RoHS"). Certain National products contain lead in RoHS exempt applications 7a or 7(c)-1.
- National products do not contain and are not manufactured with ozone depleting compounds.
- National products do not contain substances identified by the European Chemical Agency ("ECHA") as substances of very high concern ("SVHC") per REACH Regulation (EC) No 1907/2006. National also complies with use restrictions as stipulated in Annex XVII of REACH.
- National products are manufactured in conformance with National specifications (SC)CSP-9-111C1 Supplier Environmental Requirements for Materials and Products and (SC)CSP-9-111S2 Banned and Reportable Substances.
- National's list of banned and reportable substances and management system is based on the current version of the Joint Industrial Guide, JIG-101.

National has taken commercially reasonable steps to provide representative and accurate information but may not have independently verified information provided or conducted chemical analysis of incoming materials. Equivalent compliant materials may have been substituted for those stated herein. Material concentrations are the maximum expected concentration of the substance in the device and may not represent the actual concentration. National and its suppliers consider certain limited information to be confidential and thus CAS numbers and other limited information may not be available for release. Nationals Standard Terms and Conditions of Sale apply to any issue arising out of or in connection with the information provided herein unless otherwise provided by a written contract signed by both parties.

NATIONAL ACCEPTS NO DUTY TO NOTIFY USERS OF THIS DECLARATION OF UPDATES OR CHANGES TO THIS DECLARATION.

  
 John L. Conn  
 Vice President Quality

**Banned Substance Monitoring**

<b>Part Number</b>	<b>Document Date</b>
SCANSTA101SMX NOPB	07-21-2011

European RoHS Compliant.

China RoHS Compliant.

<b>Item#</b>	<b>Material</b>	<b>Cd</b>	<b>CrVI</b>	<b>Pb</b>	<b>Hg</b>	<b>PBB</b>	<b>PBDE</b>	<b>Cl</b>	<b>Br</b>	<b>Ref#</b>
1	CHIP	<1	<1	<1	<30	<10	<10	<75	<50	1000
2	COMPOUND	<2	<2	<2	<2	<5	<5	<50	<50	637
3	DIEATTACH	<2	<2	<2	<2	<5	<5	70	<50	625
4	EPOXY	<2	<2	<2	<2	<5	<5	<50	<50	150
5	SUBSTRATE	<2	N/D	<2	<2	<5	<5	155	<50	660
6	WIRE	<2	N/D	<2	<2	<5	<5	N/A	N/A	132

\* Cd: Cadmium, CrVI: Hexavalent Chromium, Pb: Lead, Hg: Mercury, NA: Not Applicable

\* Unless otherwise noted, units are in PPM (parts-per-million)

<b>Ref#</b>	<b>3rd Party Analysis</b> (available upon request, subject to a non-disclosure agreement)
1000	Analysis on 01/24/2011 by Balazs as per Report# 11-00322-00
637	Analysis on 04/29/2011 by SGS per Report# LPCI/04381(B)/11
625	Analysis on 04/29/2011 by SGS per Report# LPCI/04436(B)/11
150	Analysis on 04/29/2011 by SGS per Report# LPCI/04437(B)/11
660	Analysis on 04/29/2011 by SGS per Report# LPCI/04410(B)/11
132	Analysis on 04/29/2011 by SGS per Report# LPCI/04465(B)/11