Material Composition Declaration

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This document is a declaration of the substances within the manufacturer listed item. Note: if the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard http://www.ipc.org/IPC-175x	**Form Type *** **Distribute**	**Declaration Class *** **Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Information**

Supplier Information

Company Name * **National Semiconductor**	Company Unique ID NATSEMI	Unique ID Authority 04-147-2986	**Response Date *** **11-11-2011**	Response Document ID	
Contact Name * Lorena Dudman	Title - Contact Product Stewardship Eng.	Phone - Contact * 1-408-721-8180	Email - Contact * Green.Project@nsc.com		
Authorized Representative * Lorena Dudman	Title - Representative Product Stewardship Eng.	Phone - Representative * 1-408-721-8180	Email - Representative * Green.Project@nsc.com	Supplier Comments or URL for Additional Information http://www.national.com/analog/quality/green	

	Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	**Weight ***	UOM	Unit Type
		LM5008MMX NOPB	LM5008MMX NOPB	11-11-2011			**29.85**	mg	Each
	Alternate Recommendation				Alternate Item Comments				

Manufacturing Process Information

Terminal Plating / Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature	Max Time at Peak Temperature	Number of Reflow Cycles
Sn	**CU Alloy**	**1**	**260 C**	**40 seconds**	**4**

Comments

"Does not contain PFOS."

RoHS Material Type Declaration

Declaration Type * Custom

RoHS Directive 2002/95/EC	**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**

Subject to the limitations below, National Semiconductor Corporation ("National") certifies the following information as of the document date.

1. 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 7(a) or 7(c)-I.
2. National products do not contain and are not manufactured with ozone depleting compounds.
3. 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.
4. 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.
5. Nationals 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

RoHS Declaration *	**1 - Item(s) does not contain RoHS restricted substances per the definition above**	**Supplier Acceptance ***	**Accepted**

Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration and above and choose all applicable exemptions.

Declaration Signature

Supplier Signature John L Conn
Vice President Quality

John L. Conn Vice President Quality

Homogeneous Material Composition Declaration for Electronic Products

	Item/SubItem Name		Homogeneous Material	Weight	Unit of Measure		Level	Substance Category		Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance	PPM
			Leadframe	15.001	mg		Requester			Cu	7440-50-8		14.618	mg		974,500
							Requester			Fe	7439-89-6		0.360	mg		24,000
							Requester			Zn	7440-66-6		0.018	mg		1,200
							Requester			P	7723-14-0		0.005	mg		300
			Plastic	12.660	mg		Requester			SiO2	60676-86-0		11.267	mg		890,000
							Requester			Epoxy Resin	25928-94-3		1.013	mg		80,000
							Requester			Mg(OH)2	1309-42-8		0.380	mg		30,000
			Ext. LeadFinish	1.000	mg		Requester			Sn	7440-31-5		1.000	mg		1,000,000
			Chip	0.800	mg		Requester			Si	7440-21-3		0.795	mg		994,000
							Requester			Al	7429-90-5		0.005	mg		6,000
			Die Attach	0.180	mg		Requester			Ag	7440-22-4		0.135	mg		750,000
							Requester			Epoxy Resin	25928-94-3		0.045	mg		250,000
			Int. LeadFinish	0.140	mg		Requester			Ag	7440-22-4		0.140	mg		1,000,000
			Wires	0.070	mg		Requester			Au	7440-57-5		0.070	mg		1,000,000