



# 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.

Adobe Reader version 7.0.5 is required to complete this declaration.

1752-2 1.1	IPC Web Site for Information on IPC-1752 Standard <a href="http://www.ipc.org/IPC-175x">http://www.ipc.org/IPC-175x</a>	Form Type * Distribute	Declaration Class * Class 6 - RoHS Yes/No, Homogeneous Materials and Mfg Informat
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## Supplier Information

Company Name * STMicroelectronics	Company Unique ID	Unique ID Authority	Response Date * 2012-10-01	Response Document ID PT6P*95321KL				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *	Duplicate Contact -> Authorized Representative				
Authorized Representative * Laurent Tosi	Title - Representative MMS Central Packaging	Phone - Representative * +33 442 685 794	Email - Representative * laurent.tosi@st.com	Supplier Comments or URL for Additional Information				
Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight *	UOM	Unit Type
		TSSOP 8 BODY 4.4 PITCH 0.65	2012-10-01	A	Shenzhen	34	mg	Each
Alternate Recommendation				Alternate Item Comments				

## Manufacturing Process Information

Terminal Plating / Grid Array Material Nickel/Palladium/Gold (Ni/Pd/Au)	Terminal Base Alloy CU Alloy	J-STD-020 MSL Rating 1	Peak Process Body Temperature 260 C	Max Time at Peak Temperature 30 seconds	Number of Reflow Cycles 3
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Comments  
Ecopack 2 compliant: means Br-Cl & Sb oxide free. DISCLAIMER: While STMicroelectronics has endeavored to provide information which is accurate and up to date, this docum

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## RoHS Material Composition Declaration

Declaration Type \*

Detailed

**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

Please indicate whether any homogeneous material (as defined by the RoHS Directive, EU 2002/95/EC and implemented by the laws of the European Union member states) of the part identified on this form contains lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and/or polybrominated diphenyl ethers (each a "RoHS restricted substance") in excess of the applicable quantity limit identified above. If a homogeneous material within the part contains a RoHS restricted substance in excess of an applicable quantity limit, please indicate below which, if any, RoHS exemption you believe may apply. If the part is an assembly with lower level components, the declaration shall encompass all such components. Supplier certifies that it gathered the information it provides in this form using appropriate methods to ensure its accuracy and that such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products with European Union member state laws that implement the RoHS Directive. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part, and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part, the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form. In the absence of such written agreement, the warranty rights and/or remedies of Supplier's Standard Terms and Conditions of Sale applicable to such part shall apply.

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 above and choose all applicable exemptions.

## Declaration Signature

**Instructions:** Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Supplier Digital Signature

## Homogeneous Material Composition Declaration for Electronic Products

**SubItem Instructions:** The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

**Substance Instructions:** [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

**Line Functions:** +I Inserts a New Item /SubItem +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line

		Item/SubItem Name	Homogeneous Material		Weight	Unit of Measure	Level		Substance Category	Substance		CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM	
+I	-I		+M	-M			+C	-C		+S	-S					-	+		
		TSSOP 8 BODY 4.4			0.625767	mg			Supplier	silicon die		Silicium (Si)	7440-21-3		0.624374	mg			18,364
									Supplier	die metallization		Aluminium(Al)	7429-90-5		0.000524	mg			15.437
												Copper (Cu)	7440-50-8		0.000576	mg			16.962
												Titanium (Ti)	7440-32-6		0.000291	mg			8.5765
			+M	-M	Lead-frame	14.51685	mg			Supplier	alloy		Copper (Cu)	7440-50-8		14.14667	mg		416,08
												Iron (Fe)	7439-89-6		0.340565	mg			10,016
												Zinc (Zn)	7440-66-6		0.017420	mg			512.36
												Iron Phosphide (FeP)	26508-33-8		0.012194	mg			358.65
			+M	-M	Lead-frame Coat	0.09846	mg			Supplier	coating		Nickel (Ni)	7440-02-0		0.090269	mg		2,655.0
												Palladium (Pd)	7440-05-3		0.005779	mg			169.99
												Gold (Au)	7440-57-5		0.002412	mg			70.951
			+M	-M	Die Attach	0.230044	mg			Supplier	glue or soft solder		Silver (Ag)	7440-22-4		0.184035	mg		5,412.8
												2,6-Diglycidylphenyl all	13561-08-5		0.034506	mg			1,014.9
												1,4-bis (2,3-epoxyprop	2425-79-8		0.004600	mg			135.32
												Polyoxypropylenediam	9046-10-0		0.006901	mg			202.98
			+M	-M	Wires	0.039433	mg			Supplier	Bonding wire		Gold (Au)	7440-57-5		0.039433	mg		1,159.8
			+M	-M	Encapsulation	18.488	mg			Supplier	Moulding Compound		Epoxy Resin	na		1.3866	mg		40,782
												Phenol Resin	na		0.9244	mg			27,188
												Silicon Dioxide	60676-86-0		16.01060	mg			470,90
												Carbon-black	1333-86-4		0.09244	mg			2,718.8
								+C	-C	B	Bismuth/Bismuth Com		Bismuth	7440-69-9		0.073952	mg		2,175.0
			+M	-M	Finishing	0.000984	mg			Supplier	connections coating		Nickel (Ni)	7440-02-0		0.000902	mg		26.550
												Palladium (Pd)	7440-05-3		0.000057	mg			1.6999

+S	-S	Gold (Au)	7440-57-5		0.00024mg			0.7095
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