



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 http://www.ipc.org/IPC-175x	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 * 2012-12-04	Response Document ID CGZW*2428AKA				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *	Duplicate Contact -> Authorized Representative				
Authorized Representative * Laurent Tosi	Title - Representative MMS Central Packaging	Phone - Representative * +33 442 685 795	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
		UFDFPN 2x3x0.6 8L Pitch 0.5	2012-12-04	A	Calamba	16	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					-	+			
				0.951126	mg			Supplier	silicon die		Silicium (Si)		7440-21-3		0.950870	mg			59,427
								Supplier	die metallization		Aluminium(Al)		7429-90-5		0.000153	mg			9.5997
											Copper (Cu)		7440-50-8		0.000051	mg			3.1999
											Titanium (Ti)		7440-32-6		0.000051	mg			3.1999
				2.994	mg			Supplier	alloy		Copper (Cu)		7440-50-8		2.917653	mg			182,34
											Iron (Fe)		7439-89-6		0.070239	mg			4,389.8
											Zinc (Zn)		7440-66-6		0.003592	mg			224.54
											Iron Phosphide (FeP)		26508-33-8		0.002514	mg			157.18
				0.013053	mg			Supplier	coating		Nickel (Ni)		7440-02-0		0.011967	mg			747.95
											Palladium (Pd)		7440-05-3		0.000766	mg			47.889
											Gold (Au)		7440-57-5		0.000319	mg			19.987
				1.108977	mg			Supplier	glue or soft solder		Silver (Ag)		7440-22-4		0.970355	mg			60,645
											polymer		28630-26-4		0.088718	mg			5,544.7
											aniline		67784-74-1		0.011089	mg			693.09
											epoxy resin		Proprietary		0.033269	mg			2,079.2
											Epoxy resin molecular w		Proprietary		0.005544	mg			346.54
				0.036131	mg			Supplier	Bonding wire		Gold (Au)		7440-57-5		0.036131	mg			2,258.1
				10.897	mg			Supplier	Moulding Compound		vitrous silica		60676-86-0		9.295141	mg			580,93
											Phenol resin		na		0.381395	mg			23,836
											epoxy resin		na		0.43588	mg			27,241
											carbon black		1333-86-4		0.021794	mg			1,362.0
											2,2'-((3,3',5,5'-tetramet		85954-11-6		0.21794	mg			13,620
											Metal hydroxide		na		0.54485	mg			34,052

+M	-M	Finishing	0.000130	mg	+C	-C	Supplier	connections coating	+S	-S	Nickel (Ni)	7440-02-0		0.000119	mg			7.4795
									+S	-S	Palladium (Pd)	7440-05-3		0.000007	mg			0.4788
									+S	-S	Gold (Au)	7440-57-5		0.000003	mg			0.1998