Material Composition Declaration

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

Supplier Information

Company Name *	Company Unique ID	Unique ID Authority	**Response Date ***	Response Document ID	
ST MICROELECTRONICS			**N/A**		
Contact Name *	Title - Contact	**Phone - Contact ***	**Email - Contact ***	Duplicate Contact -> Authorized Representative	
Authorized Representative *	Title - Representative	**Phone - Representative ***	**Email - Representative** *	Supplier Comments or URL for Additional Information	
GIUSEPPE VITALI PALMA	APM MD CHAMPION	**N/A**	**N/A**		

Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	**Weight ***	UOM	Unit Type
	STL150N3LLH5	BSER*5L3TB52	2012-02-09	A	SH1A	76	mg	Each
Alternate Recommendation	PACKAGE: QFN POWER FLAT			Alternate Item Comments	ECOPACK2/ROHS; BSA: CD00321632			

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
Matte Tin (Sn) - annealed	**CU Alloy**	**1**	**260** C	**30** seconds	**3**

Comments

DISCLAIMER: While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict "as is"

Save the fields in this form to a file	Export Data	Import fields from a file into this form	Import Data	Clear all of the fields on this form	Reset Form	Lock the fields on this form to prevent changes	Lock Supplier Fields

RoHS Material Composition Declaration

Declaration Type * **Simplified**

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

Supplier certifies that it gathered the information it provides in this form concerning RoHS restrictive substances 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.

RoHS Declaration *	4 - Item(s) does not contain RoHS restricted substances per the definition above except for selected exemptions	**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.

Exemption List Version	EL-2006/690/EC

+	-	7a. Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85% by weight or more lead).

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	Giuseppe Vitali Palma Digitally signed by Giuseppe Vitali Palma DN: cn=Giuseppe Vitali Palma, o=APM QR, ou=STMicroelectronics, email=giuseppe.vitali@st.com, c=IT Date: 2012.02.09 16:23:11 +01'00'

*** Required Field**

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 -	Tolerance +	PPM
+I -I	BSER*5L3TB52	+M -M	Silicon Die	2.258	mg	+C -C	Supplier	Silicon die	+S -S	Silicon	7440-21-3		2.12	mg			938,88
						+C -C	Supplier	Die metallization	+S -S	Aluminium(Al)	7429-90-5		0.113	mg			50,044
									+S -S	Titanium (Ti)	7440-32-6		0.001	mg			443
									+S -S	Nickel (Ni)	7440-02-0		0.02	mg			8,857
									+S -S	(Gold (Au)	7440-57-5		0.004	mg			1,771
		+M -M	Leadframe	42.19	mg	+C -C	Supplier	Alloy	+S -S	Copper (Cu)	7440-50-8		41.108	mg			974,35
									+S -S	Iron (Fe)	7439-89-6		0.967	mg			22,920
									+S -S	Zinc (Zn)	7440-66-6		0.051	mg			1,209
									+S -S	Iron Phosphide (Fe2P)	1310-43-6		0.058	mg			1,375
						+C -C	Supplier	Coating	+S -S	Silver (Ag)	7440-22-4		0.006	mg			142
		+M -M	Die Attach	2.347	mg	+C -C	JIG R	Lead/Lead Compound	+S -S	Lead (Pb)	7439-92-1	7a. Lead	2.241	mg			954,83
						+C -C	Supplier	Soft solder	+S -S	Silver (Ag)	7440-22-4		0.059	mg			25,138
									+S -S	Tin (Sn)	7440-31-5		0.047	mg			20,026
		+M -M	Clip	7.805	mg	+C -C	Supplier	Clip	+S -S	Copper (Cu)	7440-50-8		7.805	mg			1,000,0
		+M -M	Encapsulation	21.187	mg	+C -C	Supplier	Moulding Compound	+S -S	Silica, vitreous	60676-86-0		19.619	mg			925,99
									+S -S	epoxy resin	85954-11-6		0.847	mg			39,977
									+S -S	phenol resin	26834-02-6		0.636	mg			30,018
									+S -S	carbon black	1333-86-4		0.085	mg			4,012
		+M -M	Finishing	0.213	mg	+C -C	Supplier	Connection coating	+S -S	Tin (Sn)	7440-31-5		0.213	mg			1,000,0

*** Required Field**