



# 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 * NA	Response Document ID				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *	Duplicate Contact -> Authorized Representative				
Authorized Representative * GIOVANNI GIACOPELLO	Title - Representative AMS/IPD MD CHAMPION	Phone - Representative * NA	Email - Representative * NA	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
	STB15N65M5	TLD2*M5F2B52	2012-11-02	A	SH1A	1,500	mg	Each
Alternate Recommendation	PACKAGE: D2PAK			Alternate Item Comments	ECOPACK2/ROHS BSA REF: CD00333163			

## Manufacturing Process Information

Terminal Plating / Grid Array Material Matte Tin (Sn) - annealed	Terminal Base Alloy CU Alloy	J-STD-020 MSL Rating 1	Peak Process Body Temperature 245 C	Max Time at Peak Temperature 30 seconds	Number of Reflow Cycles 3
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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"**

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## 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

## 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

+I	-I	Item/SubItem Name	+M	-M	Homogeneous Material	Weight	Unit of Measure	+C	-C	Level	Substance Category	+S	-S	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
																			-	+	
		TLD2*M5F2B52			Silicon Die	5.323	mg			Supplier	Silicon die			Silicon	7440-21-3		5.262	mg			988,54
										Supplier	Die metallization			Aluminium(Al)	7429-90-5		0.009	mg			1,691
														Titanium (Ti)	7440-32-6		0.003	mg			564
														Nickel (Ni)	7440-02-0		0.036	mg			6,763
														Silver (Ag)	7440-22-4		0.013	mg			2,442
					Leadframe	840.313	mg			Supplier	Alloy			Copper (Cu)	7440-50-8		836.594	mg			995,57
														Iron (Fe)	7439-89-6		0.838	mg			997
														Iron Phosphide (FeP)	26508-33-8		0.251	mg			299
										Supplier	Coating			Nickel (Ni)	7440-02-0		2.457	mg			2,924
														Phosphorus (P)	12185-10-3		0.173	mg			206
					Die Attach	2.339	mg			JIG R	Lead/Lead Compound			Lead (Pb)	7439-92-1	7a. Lead	2.234	mg			955,10
										Supplier	Soft solder			Silver (Ag)	7440-22-4		0.058	mg			24,797
														Tin (Sn)	7440-31-5		0.047	mg			20,094
					Bonding wire	1.471	mg			Supplier	Bonding wire			Aluminium (Al)	7429-90-5		1.47	mg			999,32
														Magnesium (Mg)	7439-95-4		0.001	mg			680
					Encapsulation	646.998	mg			Supplier	Moulding Compound			Epoxy Resin	Proprietary		19.41	mg			30,000
														2,2'-((3,3',5,5'-tetrameth	EC 413-900		25.88	mg			40,000
														phenol resin	Proprietary		32.35	mg			50,000
														Silica, vitreous	60676-86-0		566.123	mg			875,00
														Carbon black	1333-86-4		3.235	mg			5,000
					Finishing	3.556	mg			Supplier	Connection coating			Tin (Sn)	7440-31-5		3.556	mg			1,000,0