



# 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 * <b>ST MICROELECTRONICS</b>	Company Unique ID	Unique ID Authority	Response Date * N/A	Response Document ID				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *					
Authorized Representative * <b>GIUSEPPE VITALI PALMA</b>	Title - Representative APM MD CHAMPION	Phone - Representative * N/A	Email - Representative * N/A	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
	TS820-600H	8GIK*X0535RS	2010-12-13	A	LGGA	310	mg	Each
Alternate Recommendation	PACKAGE:IPAK TO-251			Alternate Item Comments	ECOPACK1/ROHS; BSA: CD00284867			

## Manufacturing Process Information

Terminal Plating / Grid Array Material <b>Matte Tin (Sn) - annealed</b>	Terminal Base Alloy <b>CU Alloy</b>	J-STD-020 MSL Rating <b>Not Applicable</b>	Peak Process Body Temperature C	Max Time at Peak Temperature seconds	Number of Reflow Cycles
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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 \*

3 - Item(s) does not contain RoHS restricted substances per the definition above except for lead in solders and selected exemptions, if any

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

Item/SubItem Name	Homogeneous Material	Weight	Unit of Measure	Level	Substance Category	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM	
											-	+		
8GIK*X0535RS	Silicon Die	2.027	mg	Supplier	Silicon die	Silicon	7440-21-3		1.977	mg			975,33	
					Supplier	die metallization	Aluminium(Al)	7429-90-5		0.017	mg			8,387
							Aluminium (Al)	7429-90-5		0.011	mg			5,427
							Nickel (Ni)	7440-02-0		0.018	mg			8,880
							(Gold (Au)	7440-57-5		0.004	mg			1,973
Leadframe	161.919	mg	supplier	alloy	Copper (Cu)	7440-50-8		161.708	mg			998,69		
					Iron (Fe)	7439-89-6		0.162	mg			1,000		
					Iron Phosphide (FeP)	26508-33-8		0.049	mg			303		
Leadframe coating	0.892	mg	supplier	coating	Nickel (Ni)	7440-02-0		0.884	mg			991,03		
					Phosphorus (P)	12185-10-3		0.008	mg			8,969		
Die Attach	1.048	mg	A	Lead/Lead Compound	Lead (Pb)	7439-92-1	7a. Lead	1.001	mg			955,15		
				supplier	soft solder	Silver (Ag)	7440-22-4		0.026	mg			24,809	
						Tin (Sn)	7440-31-5		0.021	mg			20,038	
Bonding wire	0.436	mg	Supplier	Bonding wire	Aluminium (Al)	7429-90-5		0.436	mg			1,000,0		
Encapsulation	142.185	mg	supplier	Moulding Compound	Silica, vitreous	60676-86-0		113.748	mg				800,00	
					Epoxy Cresol Novolak	29690-82-2		9.953	mg			70,000		
					Phenol resin	9003-35-4		5.687	mg			39,997		
					Biphenyl epoxy resin	85954-11-6		8.531	mg			60,000		
					B	Antimony/Antimony C	Antimony Trioxide	1309-64-4		1.706	mg			11,998
B	Brominated Flame Ret	Brominated Epoxy Resin	40039-93-8		2.133	mg			15,002					
					Carbon black	1333-86-4		0.427	mg			3,003		
Finishing	1.493	mg	supplier	connection coating	Tin (Sn)	7440-31-5		1.493	mg			1,000,0		