



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 * ST MICROELECTRONICS	Company Unique ID	Unique ID Authority	Response Date * N/A	Response Document ID				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *					
Authorized Representative * GIUSEPPE VITALI PALMA	Title - Representative AMS & IPD 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
	STTH810GY-TR	CSD2*I78R1AF	2012-08-02	A	SH1A	1,380	mg	Each
Alternate Recommendation	PACKAGE: D2PAK		Alternate Item Comments		ECOPACK1/ROHS; BSA: CD00313500			

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

Item/SubItem Name	Homogeneous Material	Weight	Unit of Measure	Level	Substance Category	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM
											-	+	
CSD2*178R1AF	Silicon Die	14.095	mg	Supplier	Silicon die	Silicon	7440-21-3		13.746	mg			975,23
					die metallization	Aluminium(Al)	7429-90-5		0.213	mg			15,112
					die back side metalliz	Nickel (Ni)	7440-02-0		0.104	mg			7,379
						Titanium (Ti)	7440-32-6		0.012	mg			851
						(Gold (Au))	7440-57-5		0.02	mg			1,419
Leadframe		747.09	mg	Supplier	alloy	Copper (Cu)	7440-50-8		746.119	mg			998,70
						Iron (Fe)	7439-89-6		0.747	mg			1,000
						Iron Phosphide (FeP)	26508-33-8		0.224	mg			300
Leadframe coating		2.63	mg	Supplier	coating	Nickel (Ni)	7440-02-0		2.457	mg			934,22
						Phosphorus (P)	12185-10-3		0.173	mg			65,779
Die Attach		4.679	mg	JIG R	Lead/Lead Compound	Lead (Pb)	7439-92-1	7a. Lead	4.468	mg			954,90
				Supplier	soft solder	Silver (Ag)	7440-22-4		0.117	mg			25,005
						Tin (Sn)	7440-31-5		0.094	mg			20,090
Bonding wire		7.847	mg	Supplier	Bonding wire	Aluminium (Al)	7429-90-5		7.847	mg			1,000,0
Encapsulation		600.103	mg	Supplier	Moulding Compound	Silica, vitreous	60676-86-0		510.088	mg			850,00
						Epoxy Cresol Novolak	29690-82-2		48.008	mg			80,000
						Phenol resin	9003-35-4		24.004	mg			40,000
				Supplier	Antimony/Antimony C	Antimony Trioxide	1309-64-4		7.201	mg			12,000
				JIG I	Brominated Flame Ret	Brominated Epoxy Resin	40039-93-8		9.002	mg			15,001
				Supplier	Molding compound	Carbon Black	1333-86-4		1.8	mg			2,999
Finishing		3.556	mg	Supplier	connection coating	Tin (Sn)	7440-31-5		3.556	mg			1,000,0