



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 *	Duplicate Contact -> Authorized Representative				
Authorized Representative * GIUSEPPE VITALI PALMA	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
	STP150NF04	T2DZ*ED4HA61	2011-10-11	A	BO2A	1,930	mg	Each
Alternate Recommendation	PACKAGE: TO 220 AB NON IS			Alternate Item Comments		ECOPACK1/ROHS; BSA: CD00219913		

Manufacturing Process Information

Terminal Plating / Grid Array Material Matte Tin (Sn) - annealed	Terminal Base Alloy CU Alloy	J-STD-020 MSL Rating Not Applicable	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 * 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
+I	-I		+M	-M				+C	-C			+S	-S						-	+	
		T2DZ*ED4HA61			Silicon Die	15.629	mg	+C	-C	Supplier	Silicon die	+S	-S	Silicon	7440-21-3		15.483	mg			990,65
								+C	-C	Supplier	die metallization	+S	-S	Aluminium(Al)	7429-90-5		0.018	mg			1,152
												+S	-S	Nickel (Ni)	7440-02-0		0.1	mg			6,398
												+S	-S	Gold (Au)	7440-57-5		0.021	mg			1,344
												+S	-S	Titanium (Ti)	7440-32-6		0.007	mg			448
			+M	-M	Leadframe	1,150.72	mg	+C	-C	supplier	alloy	+S	-S	Copper (Cu)	7440-50-8		1,149.23	mg			998,70
												+S	-S	Iron (Fe)	7439-89-6		0.529	mg			460
												+S	-S	Iron Phosphide (FeP)	26508-33-8		0.967	mg			840
			+M	-M	Leadframe coating	2.735	mg	+C	-C	supplier	coating	+S	-S	Nickel (Ni)	7440-02-0		2.418	mg			884,09
												+S	-S	Phosphorus (P)	12185-10-3		0.317	mg			115,90
			+M	-M	Die Attach	10.646	mg	+C	-C	JIG R	Lead/Lead Compound	+S	-S	Lead (Pb)	7439-92-1	7a. Lead	10.167	mg			955,00
								+C	-C	supplier	soft solder	+S	-S	Silver (Ag)	7440-22-4		0.266	mg			24,986
												+S	-S	Tin (Sn)	7440-31-5		0.213	mg			20,007
			+M	-M	Bonding wire	5.914	mg	+C	-C	Supplier	Bonding wire	+S	-S	Aluminium (Al)	7429-90-5		3.019	mg			510,48
												+S	-S	Magnesium (Mg)	7439-95-4		0.001	mg			169
												+S	-S	Aluminium (Al)	7429-90-5		2.894	mg			489,34
			+M	-M	Encapsulation	733.431	mg	+C	-C	supplier	Moulding Compound	+S	-S	Silica fused	60676-86-0		575.24	mg			784,31
												+S	-S	Bisphenol F type liquid	9003-36-5		68.31	mg			93,138
												+S	-S	Phenol resin	9003-35-4		64.714	mg			88,234
								+C	-C	supplier	Antimony/Antimony C	+S	-S	Antimony Trioxide	1309-64-4		12.224	mg			16,667
								+C	-C	JIG I	Brominated Flame Ret	+S	-S	Brominated flame retard	Proprietary		10.786	mg			14,706
								+C	-C	supplier	Molding compound	+S	-S	Carbon Black	1333-86-4		2.157	mg			2,941
			+M	-M	Finishing	10.919	mg	+C	-C	supplier	connection coating	+S	-S	Tin (Sn)	7440-31-5		10.919	mg			1,000,0