



## Materials Declaration Form

<b>IPC Form Type *</b>	1752 Distribute	<b>Version</b>	2
<b>Sectionals *</b>	Material Info Manufacturing Info	<b>Subsectionals *</b>	A-D
<i>* : Required Field</i>			

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2014-05-19
<b>Contact Name *</b>	Refer to "Supplier Comment" section	<b>Contact Title</b>	Refer to "Supplier Comment" section
<b>Contact Phone *</b>	Refer to "Supplier Comment" section	<b>Contact Email *</b>	Refer to "Supplier Comment" section
<b>Authorized Representative *</b>	Giuseppe Vitali Palma	<b>Representative Title</b>	AMS & IPD Materials Declaration Champion
<b>Representative Phone *</b>	Refer to "Supplier Comment" section	<b>Representative Email *</b>	Refer to "Supplier Comment" section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/internet/com/support/online_tech_support.jsp">http://www.st.com/internet/com/support/online_tech_support.jsp</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	Standard
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**Legal Statement**

Supplier certifies that it gathered the provided information and 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. 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(s), 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(s), 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.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	HYWY*V991ARL	A	ZS1A	2014-05-19
Amount	UoM	Unit type	ST ECOPACK Grade	
17.049	mg	Each	ECOPACK® 2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2.9X1.6X1.05	5	gull wing	
Comment	Package: SOT 23-5 ; MD valid also for TSV991ILT			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	true
Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	false
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-16th December 2013				
Query				Response
The product does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product

Material Composition Declaration						Mfr Item Name	HYWY*V991ARL					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Silicon Die	Other Inorganic Material	0.545	mg	Supplier	Silicon Die	Silicone (Si)	7440-21-3		0.527	mg	966972	30911
Silicon Die				Supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	9174	293
Silicon Die				Supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	1835	59
Silicon Die				Supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.001	mg	1835	59
Silicon Die				Supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.011	mg	20183	645
Leadframe	Copper & its Alloys	7.2	mg	Supplier	Alloy	Copper	7440-50-8		6.936	mg	963333	406827
Leadframe				Supplier	Alloy	Iron	7439-89-6		0.162	mg	22500	9502
Leadframe				Supplier	Alloy	Phosphorus	7723-14-0		0.002	mg	278	117
Leadframe				Supplier	Alloy	Zinc	7440-66-6		0.009	mg	1250	528
Leadframe				Supplier	Alloy	Nickel	7440-02-0		0.083	mg	11528	4868
Leadframe				Supplier	Alloy	Palladium	7440-05-3		0.007	mg	972	411
Leadframe				Supplier	Alloy	Gold	7440-57-5		0.001	mg	139	59
Die Attach	Other Organic Material	0.071	mg	Supplier	Glue	Silver	7440-22-4		0.056	mg	788732	3285
Die Attach				Supplier	Glue	methylene diacrylate	42594-17-2		0.007	mg	98592	411
Die Attach				Supplier	Glue	Bismaleimide resin	proprietary		0.002	mg	28169	117
Die Attach				Supplier	Glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.002	mg	28169	117
Die Attach				Supplier	Glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	28169	117
Die Attach				Supplier	Glue	Palladium (Pd)	7440-05-3		0.001	mg	14085	59
Die Attach				Supplier	Glue	Dicumyl peroxide	80-43-3		0.001	mg	14085	59
Bonding Wire	Other Inorganic Material	0.15	mg	Supplier	Bonding Wire	Au	7440-57-5		0.15	mg	1000000	8798
Encapsulation	Other Organic Material	9.083	mg	Supplier	Molding Compound	Epoxy Resin-1	Proprietary		0.183	mg	20148	10734
Encapsulation				Supplier	Molding Compound	Epoxy Resin-2	Proprietary		0.183	mg	20148	10734
Encapsulation				Supplier	Molding Compound	Biphenyl epoxy resin	85954-11-6		0.366	mg	40295	21468
Encapsulation				Supplier	Molding Compound	Silica	60676-86-0		7.945	mg	874711	466010
Encapsulation				Supplier	Molding Compound	Carbon Black	1333-86-4		0.018	mg	1982	1056
Encapsulation				Supplier	Molding Compound	Zinc hydroxide	20427-58-1		0.275	mg	30276	16130
Encapsulation				Supplier	Molding Compound	Magnesium hydroxide	1309-42-8		0.113	mg	12441	6628