



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D *: Required Field

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2016-11-22
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Floriana San Biagio	Representative Title	AMG MD Champion
Representative Phone *	Refer to "Supplier Comment" section	Representative Email *	Refer to "Supplier Comment" section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/internet/com/support/online_tech_support.jsp		

Uncertainty Statement

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	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	2016-11-22
Amount	UoM	Unit type	ST ECOPACK Grade	
17.100	mg	Each	ECOPACK® 3	

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: WY SOT 23-5; MDF valid for TSV991AILT			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 2015	
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
Exemption Id.	Description

QueryList : REACH-20th June 2016				
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)
Die	Other Inorganic Material	0.545	mg	Supplier	Silicon Die	Silicone (Si)	7440-21-3		0.527	mg	966972	30819
Die				Supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	9174	292
Die				Supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	1835	58
Die				Supplier	passivation	Silicon Nitride (SiN)	68034-42-4		0.001	mg	1835	58
Die				Supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.011	mg	20183	643
Leadframe	Copper & its Alloys	7.2	mg	Supplier	Alloy	Copper	7440-50-8		6.936	mg	963333	405614
Leadframe				Supplier	Alloy	Iron	7439-89-6		0.162	mg	22500	9474
Leadframe				Supplier	Alloy	Phosphorus	7723-14-0		0.002	mg	278	117
Leadframe				Supplier	Alloy	Zinc	7440-66-6		0.009	mg	1250	526
Leadframe	Nickel			Supplier	metallization	Nickel	7440-02-0		0.083	mg	11528	4854
Leadframe	Precious Metals			Supplier	metallization	Palladium	7440-05-3		0.007	mg	972	409
Leadframe	Precious Metals			Supplier	metallization	Gold	7440-57-5		0.001	mg	139	58
Die Attach	Other Organic Material	0.071	mg	Supplier	Glue	Silver	7440-22-4		0.107	mg	877049	6257
Die Attach				Supplier	Glue	methylene diacrylate	42594-17-2		0.007	mg	57377	409
Die Attach				Supplier	Glue	Bismaleimide resin	Proprietary		0.002	mg	16393	117
Die Attach				Supplier	Glue	Dicyclopentenloxyethyl methacrylate	68586-19-6		0.002	mg	16393	117
Die Attach				Supplier	Glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	16393	117
Die Attach				Supplier	Glue	Palladium (Pd)	7440-05-3		0.001	mg	8197	58
Die Attach				Supplier	Glue	Dicumyl peroxide	80-43-3		0.001	mg	8197	58
Bonding Wire	Precious Metals	0.15	mg	Supplier	Wire	Gold (Au)	7440-57-5		0.15	mg	1000000	8772
Encapsulation	Other Organic Material	9.083	mg	Supplier	Molding Compound	Epoxy Resin-1	Proprietary		0.183	mg	20148	10702
Encapsulation				Supplier	Molding Compound	Epoxy Resin-2	Proprietary		0.183	mg	20148	10702
Encapsulation				Supplier	Molding Compound	Biphenyl epoxy resin	85954-11-6		0.366	mg	40295	21404
Encapsulation				Supplier	Molding Compound	Silica	60676-86-0		7.945	mg	874711	464620
Encapsulation				Supplier	Molding Compound	Carbon Black	1333-86-4		0.018	mg	1982	1053
Encapsulation				Supplier	Molding Compound	Zinc hydroxide	20427-58-1		0.275	mg	30276	16082
Encapsulation				Supplier	Molding Compound	Magnesium hydroxide	1309-42-8		0.113	mg	12441	6608