



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2017-10-06
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
	IYWY*V991ARY	B	ZS1A	2017-10-06
Amount	UoM	Unit type	ST ECOPACK Grade	
16.37	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	
Not Applicable ; if coating is used o	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.9 - 1.6 - 1.05	5	gull wing	
Comment	Package: WY SOT 23-5; MDF valid for TSV991AIYLT			

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-7th July 2017				
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	IWAY*V991ARY					
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 materials	0.542	mg	supplier	die	Silicon (Si)	7440-21-3		0.524	mg	966790	32010
Die				supplier	metallization	Aluminium (Al)	7429-90-5		0.005	mg	9225	305
Die				supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	1845	61
Die				supplier	passivation	Silicon Nitride (SiN)	12033-89-5		0.001	mg	1845	61
Die				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.011	mg	20295	672
Leadframe	Copper & its alloys	6.863	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.581	mg	958910	402016
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.18	mg	26228	10996
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.002	mg	291	122
Leadframe				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1311	550
Leadframe	Nickel (Ni)			supplier	metallization	Nickel (Ni)	7440-02-0		0.083	mg	12094	5070
Leadframe	Precious metals			supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	1020	428
Leadframe	Precious metals			supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	146	61
Die attach	Other Organic Materials	0.078	mg	supplier	glue	Silver (Ag)	7440-22-4		0.056	mg	717949	3421
Die attach				supplier	glue	methylene diacrylate	42594-17-2		0.013	mg	166667	794
Die attach				supplier	glue	Dicyclopentenylxyethyl methacrylate	68586-19-6		0.003	mg	38462	183
Die attach				supplier	glue	Bismaleimide resin	Proprietary		0.003	mg	38462	183
Die attach				supplier	glue	Palladium (Pd)	7440-05-3		0.001	mg	12821	61
Die attach				supplier	glue	Dicumyl peroxide	80-43-3		0.002	mg	25641	122
Bonding wire	Precious metals	0.095	mg	supplier	wire	Gold (Au)	7440-57-5		0.095	mg	1000000	5803
encapsulation	Other Organic Materials	8.794	mg	supplier	mold compound	Epoxy Resin	Proprietary		0.39	mg	44348	23824
encapsulation				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.178	mg	20241	10874
encapsulation				supplier	mold compound	Phenol resin	Proprietary		0.355	mg	40368	21686
encapsulation				supplier	mold compound	Silica	60676-86-0		6.918	mg	786673	422602
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		0.036	mg	4094	2199
encapsulation				supplier	mold compound	Zinc hydroxide	20427-58-1		0.208	mg	23652	12706
encapsulation				supplier	mold compound	Magnesium hydroxide	1309-42-8		0.709	mg	80623	43311