



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 *	2017-04-03
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Antonella Lanzafame	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/web/en/support/support.html		

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
TSV321RIYLT	IYWY*1871ARY	A	ZS1A	2017-04-03
Amount	UoM	Unit type	ST ECOPACK Grade	
16.38	mg	Each	ECOPACK® 3	
	Comment	ECOPACK® 3 is STMicroelectronics trade name for ROHS compliant device without use of any ROHS exemption and without Halogen nor Antimony		

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
1	225	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	
DSO	2.9x1.6x1.05	5	gull wing	
Comment	Package: WY SOT 23-5			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	true
2 - 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
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	false
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Exemption Id.	Description

Query : California Prop65 list, dated 14 August 2015			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.08	metallization	5067

QueryList : REACH-17th December 2015				
Query				Response
1 - Product(s) 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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	IWWY*1871ARY					
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	0.730	mg	supplier	die	Silicon (Si)	7440-21-3		0.723	mg	990515	44628
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	4065	183
				supplier	Passivation	Silicon Nitride	12033-89-5		0.002	mg	2710	122
				supplier	Passivation	Silicon Oxide	7631-86-9		0.002	mg	2710	122
Leadframe	Copper & its alloys	6.783	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.504	mg	958910	401770
				supplier	alloy	Iron (Fe)	7439-89-6		0.178	mg	26228	10989
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.002	mg	291	122
				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1311	549
				supplier	metallization	Nickel (Ni)	7440-02-0		0.082	mg	12094	5067
				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	1020	427
Die attach	Other Organic Materials	0.077	mg	supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	146	61
				supplier	glue	Silver (Ag)	7440-22-4		0.055	mg	717949	3419
Bonding wires	Precious metals	0.094	mg	supplier	glue	methylene diacrylate	42594-17-2		0.013	mg	166667	794
				supplier	glue	Dicyclopentenylmethacrylate	68586-19-6		0.003	mg	38462	183
				supplier	glue	Bismaleimide resin	35325-39-4		0.003	mg	38462	183
				supplier	glue	Palladium (Pd)	7440-05-3		0.001	mg	12821	61
				supplier	glue	Dicumyl peroxide	80-43-3		0.002	mg	25641	122
				supplier	wire	Gold (Au)	7440-57-5		0.094	mg	1000000	5800
Encapsulation	Other Organic Materials	8.696	mg	supplier	mold compound	Epoxy Resin	25068-38-6		0.386	mg	44348	23810
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.176	mg	20241	10867
				supplier	mold compound	Phenol resin	29690-82-2		0.351	mg	40368	21673
				supplier	mold compound	Silica	60676-86-0		6.840	mg	786673	422344
				supplier	mold compound	Carbon Black	1333-86-4		0.036	mg	4094	2198
				supplier	mold compound	Zinc hydroxide	20427-58-1		0.206	mg	23652	12698
				supplier	mold compound	Magnesium hydroxide	1309-42-8		0.701	mg	80623	43284