



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 *	2018-01-10
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Floriana SAN BIAGIO	Representative Title	AMS 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

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*3021BTJ	A	ZS1A	2018-01-10
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	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
ting is used or other bulk terminat	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2.9x1.6 x1.05	5	gull wing	
Comment	Package: WY SOT 23-5; MDF valid for TS3021AILT			

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

QueryList : REACH-7th July 2017				
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						Mfr Item Name	HWY*3021BTJ					
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	0.397	mg	supplier	die	Silicon (Si)	7440-21-3		0.385	mg	969773	23504
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	7557	183
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	2519	61
				supplier	Passivation	Silicon Oxide	7631-86-9		0.008	mg	20151	488
				supplier	alloy	Copper (Cu)	7440-50-8		6.596	mg	960676	402686
Leadframe	Copper & its alloys	6.866	mg	supplier	alloy	Iron (Fe)	7439-89-6		0.166	mg	24177	10134
				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		0.085	mg	12380	5189
				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	1020	427
Die attach	Other Organic Materials	0.079	mg	supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	146	61
				supplier	glue	Polyoxypropylenediamine	9046-10-0		0.057	mg	721519	3480
				supplier	glue	Phenol resin	9003-35-4		0.013	mg	164557	794
				supplier	glue	Gold (Au)	7440-57-5		0.003	mg	37975	183
				supplier	glue	Amorphous silica	7631-86-9		0.003	mg	37975	183
Bonding wires	Precious metals	0.155	mg	supplier	glue	Poly[(O-Cresyl glycidyl ether)-co-Formaldehyde	37382-79-9		0.001	mg	12658	61
				supplier	glue	Phenol resin	9003-35-4		0.002	mg	25316	122
				supplier	wire	Brominated epoxy resin	68541-56-0		0.155	mg	1000000	9463
				supplier	mold compound	Epoxy Resin	25068-38-6		0.351	mg	39518	21429
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.132	mg	14862	8059
Encapsulation	Other Organic Materials	8.882	mg	supplier	mold compound	Phenol resin	29690-82-2		0.367	mg	41320	22405
				supplier	mold compound	Silica	60676-86-0		7.120	mg	801621	434676
				supplier	mold compound	Carbon Black	1333-86-4		0.016	mg	1801	977
				supplier	mold compound	Zinc hydroxide	20427-58-1		0.163	mg	18352	9951
				supplier	mold compound	Magnesium hydroxide	1309-42-8		0.733	mg	82526	44750