



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 *	2018-03-05
Company Unique ID	NL 008751171801		
Contact Name *	Refer to Supplier Comment section		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	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
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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
	AYWY*VB72AAY	A	ZS1A	2018-03-05
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	
Not Applicable	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2.9x1.6x1.05	5	gull wing	
Comment	WY SOT 23-5; MDF valid for TSZ181YLT			

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-15th January 2018				
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	AYWY*VB7ZAAY				5000000.0	999939.0
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	0.423	mg	supplier	die	Silicon (Si)	7440-21-3		0.405	mg	957447	24725
				supplier	metallization	Aluminium (Al)	7429-90-5		0.004	mg	9456	244
				supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	2364	61
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	2364	61
				supplier	Passivation	Silicon Oxide	7631-86-9		0.007	mg	16548	427
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.005	mg	11820	305
Leadframe	M-004 Copper and its alloys	7.161	mg	supplier	Alloy	Copper (Cu)	7440-50-8		6.926	mg	967183	422833
				supplier	Alloy	Phosphorus (P)	7723-14-0		0.001	mg	140	61
				supplier	Alloy	Zinc (Zn)	7440-66-6		0.004	mg	559	244
				supplier	Alloy	Iron (Fe)	7439-89-6		0.150	mg	20947	9158
				supplier	plating	Nickel (Ni)	7440-02-0		0.072	mg	10054	4396
				supplier	plating	Palladium (Pd)	7440-05-3		0.007	mg	978	427
Die attach	M-015 Other organic materials	0.038	mg	supplier	glue	Gold (Au)	7440-57-5		0.001	mg	140	61
				supplier	glue	Silver (Ag)	7440-22-4		0.032	mg	842105	1954
				supplier	glue	Carbocyclic acrylate	Proprietary		0.004	mg	105263	244
				supplier	glue	2-Propenoic acid, 2-methyl-, 2-[(2,3,3a,4,7,7a)]	68586-19-6		0.002	mg	52632	122
Bonding wires	M-008 Precious metals	0.160	mg	supplier	wire	Gold (Au)	7440-50-8		0.160	mg	1000000	9768
Encapsulation	M-015 Other organic materials	8.597	mg	supplier	Mold compound	Solid Epoxy Resin-1	29690-82-2		0.176	mg	20472	10745
				supplier	Mold compound	Solid Epoxy Resin-2	Proprietary		0.176	mg	20472	10745
				supplier	Mold compound	Phenol resin	25068-38-6		0.353	mg	41061	21551
				supplier	Mold compound	Amorphous Silica	60676-86-0		7.848	mg	912877	479121
				supplier	Mold compound	Carbon Black	1333-86-4		0.044	mg	5118	2686