



Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-07-24
Company Unique ID	NL 008751171801		
Contact Name *	Floriana SAN BIAGIO	Contact Title	AMS MD Champion
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
	MAKO*180VAB5	A	ZGRA	2018-07-24
Amount	UoM	Unit type	ST ECOPACK Grade	
0.722	mg	Each	ECOPACK® 2	
Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant			

Manufacturing information			
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	
3	260	3	
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment
SACN105	Not Applicable	Not Applicable	



Package Designator	Size	Nbr of instances	Shape
BARE DIE	0.8x0.8	4	flat
Comment	KO C5PS0.4 4-6		

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 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- 27th June 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
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Homogeneous Material above the limits per the definition within REACH				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Homogeneous Material (mg)	Application - Homogeneous Material	ppm in Homogeneous Material

Material Composition Declaration						Mfr Item Name	MAKO*180VABS		0.213		0.0000	0.0000
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die		0.722	mg	supplier	die	Silicon (Si)	7440-21-3		0.541	mg	749307	749307
				supplier	metallisation	Aluminium (Al)	7429-90-5		0.004	mg	5540	5540
				supplier	metallisation	Tungsten (W)	7440-33-7		0.003	mg	4155	4155
				supplier	Passivation	Silicon Nitride (SiN)	12033-89-5		0.001	mg	1385	1385
				supplier	passivation	Silicon Oxide	7631-86-9		0.007	mg	9695	9695
				supplier	die polymer coating	PIXL Gamma-butyrolactone	96-48-0		0.005	mg	6925	6925
				supplier	UBM	Copper (Cu)	7440-50-8		0.011	mg	15235	15235
				supplier	bumps	Tin (Sn)	7440-31-5		0.147	mg	203601	203601
				supplier	bumps	Silver (Ag)	7440-22-4		0.002	mg	2770	2770
				supplier	bumps	Copper (Cu)	7440-50-8		0.001	mg	1385	1385