



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 *	2018-07-12
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
	HVAR*VB77ABJ	A	ZS1A	2018-07-12
Amount	UoM	Unit type	ST ECOPACK Grade	
16	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 (in each organic material)		

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	AR TSOT23-5L; MDF valid for LDLN030G33R			

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-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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	HVAR*VB77ABJ				5000000.0	1000006.0
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	0.245	mg	supplier	die	Silicon (Si)	7440-21-3		0.229	mg	934694	14313
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	12245	188
				supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	4082	63
				supplier	metallization	Tungsten (W)	7440-33-7		0.003	mg	12245	188
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	4082	63
				supplier	Passivation	Silicon Oxide	7631-86-9		0.008	mg	32653	500
Leadframe	M-004 Copper and its alloys	7.635	mg	supplier	alloy	Copper (Cu)	7440-50-8		7.384	mg	967125	461500
				supplier	alloy	Phosphorus (P)	7723-14-0		0.001	mg	131	63
				supplier	alloy	Zinc (Zn)	7440-66-6		0.004	mg	524	250
				supplier	alloy	Iron (Fe)	7439-89-6		0.160	mg	20956	10000
				supplier	metallization	Nicke (Ni)	7440-02-0		0.076	mg	9954	4750
				supplier	metallization	Palladium (Pd)	7440-05-3		0.008	mg	1048	500
Die Attach	M-015 Other organic materials	0.091	mg	supplier	glue	Quartz (SiO2)	14808-60-7		0.046	mg	505495	2875
				supplier	glue	Bisphenol-F-(epichlorhydrin) epoxy resin	9003-36-5		0.018	mg	197802	1125
				supplier	glue	1,4-Bis(2,3-epoxypropoxy) butane	2425-79-8		0.018	mg	197802	1125
				supplier	glue	Dapsone	80-08-0		0.008	mg	87912	500
Bonding wires	M-008 Precious metals	0.196	mg	supplier	glue	Bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6		0.001	mg	10589	63
				supplier	wire	Gold (Au)	7440-50-8		0.196	mg	1000000	12250
				supplier	Mold compound	Solid Epoxy Resin-1	29690-82-2		0.157	mg	20043	9813
				supplier	Mold compound	Solid Epoxy Resin-2	Proprietary		0.157	mg	20043	9813
Encapsulation	M-015 Other organic materials	7.833	mg	supplier	Mold compound	Phenol resin	25068-38-6		0.313	mg	39959	19563
				supplier	Mold compound	Amorphous Silica	60676-86-0		6.971	mg	889953	435688
				supplier	Mold compound	Carbon Black	1333-86-4		0.039	mg	4979	2438
				supplier	Mold compound	Crystalline silica	14808-60-7		0.196	mg	25022	12250