



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 *	2017-09-29
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	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
	RRWV*KR33FC1	A	Z9LA	2017-09-29
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	Tin (Sn), matte, annealed	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2.8x1.5x0.9	5	gull wing	
Comment	Package: WV SOT 23 5L; MDF valid for LD2981ABM33TR			

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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	RRWV*KR33FC1				5999999.0	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	0.959	mg	supplier	die	Silicon (Si)	7440-21-3		0.932	mg	971846	58250
				supplier	metallization	Aluminium (Al)	7429-90-5		0.015	mg	15641	938
				supplier	Passivation	Silicon Nitride	12033-89-5		0.004	mg	4171	250
				supplier	Passivation	Silicon Oxide	7631-86-9		0.008	mg	8342	500
				supplier	Alloy	Copper (Cu)	7440-50-8		3.271	mg	749027	204438
Leadframe	M-004 Copper and its alloys	4.367	mg	supplier	Alloy	Iron (Fe)	7439-89-6		0.085	mg	19464	5313
				supplier	Alloy	Phosphorus (P)	7723-14-0		0.003	mg	687	188
				supplier	Alloy	Zinc (Zn)	7440-66-6		0.974	mg	223036	60875
				supplier	Alloy	Silver (Ag)	7440-22-4		0.034	mg	7786	2125
				supplier	glue	Silver	7440-22-4		0.771	mg	794845	48188
Die Attach	M-015 Other organic materials	0.970	mg	supplier	glue	Acrylate monomer	Proprietary		0.097	mg	100000	6063
				supplier	glue	Acrylate oligomer	Proprietary		0.068	mg	70103	4250
				supplier	glue	Bismaleimide resin	35325-39-4		0.029	mg	29897	1813
				supplier	glue	Epoxy resin	29690-82-2		0.005	mg	5155	313
				supplier	wire	Cu	7440-50-8		0.970	mg	1000000	60625
Bonding wires	M-011 Other inorganic materials	0.970	mg	supplier	Mold compound	Epoxy Resin 1	29690-82-2		0.311	mg	40057	19438
				supplier	Mold compound	Epoxy Resin 2	Trade secret		0.078	mg	10046	4875
				supplier	Mold compound	Phenol Resin	25068-38-6		0.388	mg	49974	24250
				supplier	Mold compound	Catalyst	Trade secret		0.039	mg	5023	2438
				supplier	Mold compound	Carbon black	1333-86-4		0.008	mg	1030	500
Encapsulation	M-015 Other organic materials	7.764	mg	supplier	Mold compound	Amorphous silica	60676-86-0		6.707	mg	863859	419188
				supplier	Mold compound	Crystal silica	14808-60-7		0.233	mg	30010	14563
				supplier	Connection coating	Tin(Sn)	7440-31-5		0.970	mg	1000000	60625
Finishing	M-011 Other inorganic materials	0.970	mg	supplier	Connection coating	Tin(Sn)	7440-31-5		0.970	mg	1000000	60625