



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 *	2017-12-19
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
	HWLL*KS331A6	A	Z4XA	2017-12-19
Amount	UoM	Unit type	ST ECOPACK Grade	
110	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	0.248x0.09x0.071	4	flat	
Comment	Package: LL SOT 223; MDF valid for LD1117S33TR			

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	HWLL*KS331A6				6000000.0	1000003.0
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	2.451	mg	supplier	die	Silicon (Si)	7440-21-3		2.372	mg	967768	21564
				supplier	metallization	Aluminium (Al)	7429-90-5		0.030	mg	12240	273
				supplier	Passivation	Silicon Nitride	12033-89-5		0.010	mg	4080	91
				supplier	Passivation	Silicon Oxide	7631-86-9		0.014	mg	5712	127
				supplier	back side metallization	Chromium (Cr)	7440-47-3		0.002	mg	816	18
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.017	mg	6936	155
Leadframe	M-004 Copper and its alloys	48.307	mg	supplier	back side metallization	Silver (Ag)	7440-22-4		0.006	mg	2448	55
				supplier	alloy	Copper(Cu)	7440-50-8		46.209	mg	956569	420082
				supplier	alloy	Iron (Fe)	12597-68-1		1.101	mg	22792	10009
				supplier	alloy	Phosphorus (P)	7723-14-0		0.012	mg	248	109
				supplier	alloy	Zinc (Zn)	7440-66-6		0.061	mg	1263	555
				supplier	metallization	Silver (Ag)	7440-22-4		0.924	mg	19128	8400
Die attach	M-015 Other organic materials	0.976	mg	supplier	glue	Silver(Ag)	7440-22-4		0.683	mg	699795	6209
				supplier	glue	Epoxy Resin	29690-82-2		0.195	mg	199795	1773
				supplier	glue	1,4-Butanedithiolglycidyl ether	2425-79-8		0.098	mg	100410	891
				supplier	wire	Copper (Cu)	60676-86-0		0.044	mg	1000000	400
Bonding wires	M-011 Other inorganic materials	0.044	mg	supplier	wire	Copper (Cu)	60676-86-0		0.044	mg	1000000	400
				supplier	mold compound	Epoxy Resin	Proprietary		1.713	mg	29993	15573
Encapsulation	M-015 Other organic materials	57.114	mg	supplier	mold compound	Epoxy, Cresol Novolac	29690-82-2		1.142	mg	19995	10382
				supplier	mold compound	Phenol Resin	25068-38-6		2.856	mg	50005	25964
				supplier	mold compound	Carbon Black	1333-86-4		0.057	mg	998	518
				supplier	mold compound	Silica Fused	60676-86-0		51.346	mg	899009	466782
Finishing	M-011 Other inorganic materials	1.108	mg	supplier	connection coating	Tin (Sn)	7440-31-5		1.108	mg	1000000	10073