



## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2017-12-21
<b>Company Unique ID</b>	NL 008751171801		
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Authorized Representative *</b>	Floriana SAN BIAGIO	<b>Representative Title</b>	AMG MD CHAMPION
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	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
	RFL*KS121A6	A	Z8GA	2017-12-21
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 LD1117S12TR			

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	RFL**K5121A6				6000002.0	1000000.0
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	52.061	mg	supplier	back side metallization	Silver (Ag)	7440-22-4		0.006	mg	2448	55
				supplier	alloy	Copper (Cu)	7440-50-8		51.361	mg	986554	466918
				supplier	alloy	Iron (Fe)	7439-89-6		0.051	mg	980	464
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.015	mg	288	136
				supplier	metallization	Silver (Ag)	7440-22-4		0.634	mg	12178	5764
				supplier	glue	Silver(Ag)	7440-22-4		0.321	mg	690323	2918
Die attach	M-015 Other organic materials	0.465	mg	supplier	glue	Acrylate resin	Proprietary		0.096	mg	206452	873
				supplier	glue	Heterocyclic organic compound	Proprietary		0.034	mg	73118	309
				supplier	glue	Treated silica	112-07-2		0.014	mg	30108	127
				supplier	wire	Copper (Cu)	7440-50-8		0.122	mg	1000000	1109
Encapsulation	M-015 Other organic materials	54.196	mg	Supplier	mold compound	phenolic resin	29690-82-2		1.589	mg	29320	14445
				Supplier	mold compound	epoxy resin	9003-35-4		1.589	mg	29320	14445
				Supplier	mold compound	Biphenyl epoxy resin	85954-11-6		2.740	mg	50557	24909
				Supplier	mold compound	Carbon Black	1333-86-4		0.055	mg	1015	500
connections coating	M-011 Other inorganic materials	0.705	mg	Supplier	mold compound	Silica	60676-86-0		48.223	mg	889789	438391
				supplier	solder alloy	Tin (Sn)	7440-31-5		0.705	mg	1000000	6409