



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 *	2014-02-19
Contact Name *	Refer to "Supplier Comment" section	Contact Title	Refer to "Supplier Comment" section
Contact Phone *	Refer to "Supplier Comment" section	Contact Email *	Refer to "Supplier Comment" section
Authorized Representative *	Giuseppe Vitali Palma	Representative Title	AMS & IPD Materials Declaration 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/internet/com/support/online_tech_support.jsp		

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
	TLDZ*EL6CB31	A	LGGA	2014-02-19
Amount	UoM	Unit type	ST ECOPACK Grade	
1919.00	mg	Each	ECOPACK® 1	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles	 life.augmented	
NAC	NAC	NAC		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10X9.1X4.5	2	Through-hole	
Comment	Package: TO 220 AB NON ISOL.			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
Product(s) meets EU RoHS requirement without any exemptions	false
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
Product(s) meets EU RoHS requirements by application of the selected exemption(s)	true
Product(s) does not meet EU RoHS requirements and is not under exemptions	false
Product(s) is obsolete, no information is available	false
Product(s) is unknown, no information is available	false
Exemption Id.	Description

QueryList : REACH-16th December 2013				
Query				Response
The product 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						Mfr Item Name	TLD2*EL6CB31					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
die (s)	Other inorganic materials	3.354	mg	supplier	die	Silicon (Si)	7440-21-3		3.244	mg	967203	1690
die (s)				supplier	metallization	Aluminium (Al)	7429-90-5		0.063	mg	18784	33
die (s)				supplier	passivation	Silicon Oxide(SiO2)	7631-86-9		0.018	mg	5367	9
die (s)				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	596	1
die (s)				supplier	back side metallization	Gold (Au)	7440-57-5		0.005	mg	1491	3
die (s)				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.022	mg	6559	11
Leadframe	Copper & its alloys	1150.613	mg	supplier	alloy	Copper (Cu)	7440-50-8		1149.103	mg	998688	598803
Leadframe				supplier	alloy	Iron (Fe)	7439-89-6		0.529	mg	460	276
Leadframe				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.967	mg	840	504
Leadframe				supplier	metallization	Nickel (Ni)	7440-02-0		0.013	mg	11	7
Leadframe				supplier	metallization	Phosphorus (P)	12185-10-3		0.001	mg	1	1
Soft solder	Other Organic Materials	2.87	mg	JIG R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	2.741	mg	955052	1428
Soft solder				supplier	solder	Silver (Ag)	7440-22-4		0.072	mg	25087	38
Soft solder				supplier	solder	Tin (Sn)	7440-31-5		0.057	mg	19861	30
Bonding wire	Other inorganic materials	1.247	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.247	mg	999199	650
Bonding wire		0.001	mg	supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	801	1
encapsulation	Other Organic Materials	756.674	mg	supplier	mold compound	Silica vitreous	60676-86-0		590.206	mg	780000	307559
encapsulation				supplier	mold compound	Bisphenol F type epoxy resin	9003-36-5		71.884	mg	95000	37459
encapsulation				supplier	mold compound	Phenol resin	9003-35-4		68.101	mg	90000	35488
encapsulation				supplier	mold compound	Antimony Trioxide	1309-64-4		12.863	mg	16999	6703
encapsulation				JIG I	mold compound	Brominated flame retardant	Proprietary		11.35	mg	15000	5915
encapsulation				supplier	mold compound	Carbon Black	1333-86-4		2.27	mg	3000	1183
connections coating	Solder	4.241	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		4.241	mg	1000000	2210