



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 *	2015-11-11
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Rossana Bonaccorso	Representative Title	IPD 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
Legal Statement	<p>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.</p>		

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
BUL381D	TLDZ*B10836F	A	Z8GA	2015-11-11
Amount		UoM	Unit type	ST ECOPACK Grade
1900.00		mg	Each	ECOPACK® 2

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	4.3-2.77-2	3	Through-hole	
Comment	Package: TO 220 AB NON ISOL			

QueryList : ROHS directive 2011/65/EU _ July 2011	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	false
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)	true
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	false
5 - Product(s) is obsolete, no information is available	false
6 - Product(s) is unknown, no information is available	false
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : REACH-15th June 2015				
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						Mfr Item Name	TLD2*B10836F					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die or Dies (choose)	Other inorganic materials	6.441	mg	supplier	die	Silicon (Si)	7440-21-3		6.166	mg	957305	3245
				supplier	metallization	Aluminium (Al)	7429-90-5		0.143	mg	22202	75
				supplier	Passivation	Silicon Oxide	7631-86-9		0.082	mg	12731	43
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.003	mg	466	2
				supplier	back side metallization	Gold (Au)	7440-57-5		0.008	mg	1242	4
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.039	mg	6055	21
Leadframe	Copper & its alloys	1095.010	mg	supplier	alloy	Copper(CU)	7440-50-8		1093.315	mg	998452	575429
				supplier	alloy	Iron(Fe)	7439-89-6		1.094	mg	999	576
				supplier	metallization	Phosphorus(P)	12185-10-3		0.328	mg	300	173
				supplier	metallization	Nickel	7440-02-0		0.273	mg	249	144
Soft solder	Solder	3.427	mg	supplier	Soft Solder	Tin(Sn)	7440-31-5		0.069	mg	20134	36
				supplier	Soft Solder	Silver(Ag)	7440-22-4		0.086	mg	25095	45
				JIG - R	Soft Solder	Lead (Pb)	7439-92-1	7a-Lead in high me	3.272	mg	954771	1722
Bonding wire	Other inorganic materials	4.212	mg	supplier	wire	Aluminum(Al)	84195-93-7		4.212	mg	1000000	2217
Encapsulation	Other inorganic materials	764.861	mg	supplier	Molding compound	Silica Fused	60676-86-0		611.890	mg	800002	322047
				supplier	Molding compound	Epoxy Resin	25068-38-6		76.487	mg	100001	40256
				supplier	Molding compound	Phenol Resin	29690-82-2		49.715	mg	64999	26166
				supplier	Molding compound	Carbon Black	14808-60-7		26.769	mg	34999	14089
Connections coating	Solder	26.049	mg	supplier	solder alloy	Tin(Sn)	7440-31-5		26.049	mg	1000000	13710