



Materials Declaration Form

IPC Form Type *	1752 Distribute	Version	2
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D

** : Required Field*


Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2016-11-04
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	Giovanni Giacopello	Representative Title	ADG 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		

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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
STB23N80K5	TLD2*VK86B52	A	SHENZHEN B/E	2016-11-04
	Amount	UoM	Unit type	ST ECOPACK Grade
	1380.00	mg	Each	ECOPACK2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
1	245	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NAC	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	10.2-9.15-4.5	2	gull wing	
Comment	D2PAK			

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	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
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-20th June 2016				
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*VK86852					
note : Substance present with less 0.001mg will not be declared in this document												
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	Other inorganic materials	16.542	mg	supplier	die	Silicon (Si)	7440-21-3		15.752	mg	952243	11414
				supplier	metallization	Aluminium (Al)	7429-90-5		0.293	mg	17712	212
				supplier	metallization	Copper (Cu)	7440-50-8		0.108	mg	6529	78
				supplier	Passivation	Silicon Nitride	12033-89-5		0.068	mg	4111	49
				supplier	Passivation	Silicon Oxide	7631-86-9		0.167	mg	10096	121
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.008	mg	483	6
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.108	mg	6529	78
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.038	mg	2297	28
				supplier	alloy	Copper (Cu)	7440-50-8		777.537	mg	998594	563433
Leadframe	Copper & its alloys	778.632	mg	supplier	alloy	Iron (Fe)	7439-89-6		0.358	mg	460	259
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.654	mg	840	474
				supplier	metallization	Nickel (Ni)	7440-02-0		0.077	mg	98	56
				supplier	metallization	Phosphorus (P)	12185-10-3		0.006	mg	8	4
Soft solder	Solder	14.574	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	13.918	mg	954988	10086
				supplier	solder	Silver (Ag)	7440-22-4		0.364	mg	24976	264
				supplier	solder	Tin (Sn)	7440-31-5		0.292	mg	20036	213
Bonding wires	Other inorganic materials	0.906		supplier	wire	Aluminium (Al)	7429-90-5		0.903	mg	996689	654
				supplier	wire	Magnesium (Mg)	7439-95-4		0.003	mg	3311	2
Encapsulation	Other Organic Materials	566.857	mg	supplier	mold compound	Silica, vitreous	60676-86-0		496.000	mg	875000	359420
				supplier	mold compound	Tetramethyl-biphenyl-diyl-bis oxymethylene-b	EC 413-900-7		22.674	mg	40000	16430
				supplier	mold compound	Epoxy Resin	25068-38-6		17.006	mg	30001	12323
				supplier	mold compound	phenol resin	29690-82-2		28.343	mg	50000	20538
				supplier	mold compound	Carbon black	1333-86-4		2.834	mg	4999	2054
Connections coating	Solder	2.489	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		2.489	mg	1000000	1804