



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 *	2018-10-25
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 *	Rossana Bonaccorso	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		

Uncertainty Statement


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Legal Statement		
Supplier Acceptance *	true	Legal Declaration *
		Standard

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
STB20NG65M5	TLD2*M5F4B52	A	3068	2018-10-25
Amount	UoM	Unit type	ST ECOPACK Grade	
1380.00	mg	Each	ECOPACK2	
	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	245	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy		
NA	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-March 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 : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 25th May 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.48	Die - Leadframe	349
Lead	7.69	Soft solder	5570

QueryList : REACH-27th June 2018				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	7.69	Soft solder	5570
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	7.69	Soft solder	955025

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TLD2*M5F4B52									
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	9.185	mg	supplier	die	Silicon (Si)	7440-21-3		8.474	mg	922591	6141				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.158	mg	17202	114				
				supplier	metallization	Copper (Cu)	7440-50-8		0.058	mg	6316	42				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.347	mg	37779	251				
				supplier	metallization	Silver (Ag)	7440-22-4		0.021	mg	2286	15				
				supplier	metallization	Titanium (Ti)	7440-32-6		0.006	mg	653	4				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.036	mg	3919	26				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.003	mg	327	2				
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.004	mg	435	3				
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.058	mg	6315	42				
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.020	mg	2177	14				
				Leadframe	M-004 Copper and its alloys	778.633	mg	supplier	alloy	Copper (Cu)	7440-50-8		777.537	mg	998592	563433
								supplier	alloy	Iron (Fe)	7439-89-6		0.779	mg	1000	564
supplier	alloy	Iron Phosphide (FeP)	26508-33-8						0.234	mg	301	170				
supplier	metallization	Nickel (Ni)	7440-02-0						0.077	mg	99	56				
supplier	metallization	Phosphorus (P)	7723-14-0						0.006	mg	8	4				
Soft solder	Solder	8.049	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	7.687	mg	955025	5570				
				supplier	solder	Silver (Ag)	7440-22-4		0.201	mg	24973	147				
				supplier	solder	Tin (Sn)	7440-31-5		0.161	mg	20002	117				
Bonding wires	M-011 Other inorganic materials	1.578	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.571	mg	995564	1138				
				supplier	wire	Magnesium (Mg)	7439-95-4		0.007	mg	4436	5				
				supplier	mold compound	Silica, vitreous	60676-86-0		507.558	mg	875000	367796				
Encapsulation	M-011 Other inorganic materials	580.066	mg	supplier	mold compound	Tetramethyl-biphenyl-diyl-bis oxymethylene-b	85954-11-6		23.203	mg	40001	16814				
				supplier	mold compound	Epoxy Resin	25068-38-6		17.402	mg	30000	12610				
				supplier	mold compound	phenol resin	29690-82-2		29.003	mg	49999	21017				
				supplier	mold compound	Carbon black	1333-86-4		2.900	mg	5000	2101				
Connections coating	Solder	2.489	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		2.489	mg	1000000	1804				