



Materials Declaration Form

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

** : Required Field*

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2020-05-04
Company Unique ID	NL 008751171B01		
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 *	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		

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
STB45N50DM2AG	XLD2*FQ5LA62	A	3068	2020-05-04
	Amount	UoM	Unit type	ST ECOPACK Grade
	1380	mg	Each	ECOPACK 1
Comment	ECOPACK® or ECOPACK® 1 is STMicroelectronics trade name for ROHS compliant devices			

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
1	245	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	CD00410688	



Package Designator	Size	Nbr of instances	Shape	
SIP	10.20,9.15,4.50	3	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 3rd January 2020			
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	0.26	die - leadframe	188
Lead	11.78	soft solder	8533
Antimony trioxide	6.73	encapsulation	4877

QueryList : REACH-16th January 2020				
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	11.78	Soft solder	8533
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	11.775	Soft solder	954988

Material Composition Declaration :						Mfr Item Name	XLD2*FQ5LA62					
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	M-011 Other inorganic materials	23.064	mg	supplier	die	Silicon(Si)	7440-21-3		22.133	mg	959634	16038
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.448	mg	19424	325
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.154	mg	6677	112
				supplier	metallisation	Silver(Ag)	7440-22-4		0.054	mg	2341	39
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.011	mg	477	8
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.106	mg	4596	77
Leadframe	M-004 Copper and its alloys	778.660	mg	supplier	passivation	Silicon oxide	7631-86-9		0.158	mg	6851	114
				supplier	alloy & coating	Copper(Cu)	7440-50-8		777.532	mg	998551	563429
				supplier	alloy & coating	Nickel(Ni)	7440-02-0		0.105	mg	135	76
				supplier	alloy & coating	Iron(Fe)	7439-89-6		0.358	mg	460	259
				supplier	alloy & coating	Iron Phosphide(FeP)	26508-33-8		0.654	mg	840	474
				supplier	alloy & coating	Phosphorus metal	7723-14-0		0.011	mg	14	8
Soft solder	Solder	12.330	mg	SVHC	solder	Lead(Pb)	7439-92-1	7a-Lead in high melting temper	11.775	mg	954988	8533
				supplier	solder	Silver(Ag)	7440-22-4		0.308	mg	24980	223
				supplier	solder	Tin(Sn)	7440-31-5		0.247	mg	20032	179
Bonding wires	M-003 Aluminum and its alloys	2.894	mg	supplier	wire	Aluminium (Al)	7429-90-5		2.894	mg	1000000	2097
Bonding wires 2	M-003 Aluminum and its alloys	0.132	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.131	mg	992424	95
				supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	7576	1
Encapsulation	M-011 Other inorganic materials	560.431	mg	supplier	mold compound	Silica vitreous	60676-86-0		461.235	mg	823000	334228
				supplier	mold compound	Epoxy Cresol Novolac	29690-82-2		39.230	mg	70000	28428
				supplier	mold compound	Phenol resin	9003-35-4		22.417	mg	40000	16244
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		16.813	mg	30000	12183
				supplier	mold compound	Antimony trioxide	1309-64-4		6.725	mg	12000	4873
				supplier	mold compound	Brominated epoxy resin	40039-93-8		11.209	mg	20000	8123
				supplier	mold compound	Carbon black	1333-86-4		2.802	mg	5000	2030
connections coating	Solder	2.489	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		2.489	mg	1000000	1804