



## Materials Declaration Form

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

*\* : Required Field*

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2020-03-27
<b>Company Unique ID</b>	NL 008751171B01		
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Authorized Representative *</b>	Giovanni Giacopello	<b>Representative Title</b>	ADG MD CHAMPION
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**Uncertainty Statement**


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Legal Statement		
<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>
		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
1.5KE47A	8HWA*TWU047K	A	ZA41	2020-03-27
	Amount	UoM	Unit type	ST ECOPACK Grade
	877	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
Not Applicable	Not Applicable	Not Applicable		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SMC	9.15X15.7X5	NA	J bend	
Comment	Package: DO201			

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	0.05	Die	59
Lead	2.11	Soft solder	2404

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	2.11	Soft solder	2404
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the defi				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	2.11	Soft solder	924967

Material Composition Declaration :						Mfr Item Name	8HWA*TWU047K					
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	5.063	mg	supplier	die	Silicon (Si)	7440-21-3		4.909	mg	969583	5597
				supplier	metallization	Aluminium (Al)	7429-90-5		0.028	mg	5530	32
				supplier	metallization	Gold (Au)	7440-57-5		0.020	mg	3950	23
				supplier	metallization	Nickel (Ni)	7440-02-0		0.021	mg	4148	24
				supplier	Passivation	Silicon Oxide	7631-86-9		0.028	mg	5530	32
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.019	mg	3753	22
				supplier	back side metallization	Gold (Au)	7440-57-5		0.007	mg	1383	8
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.031	mg	6123	35
Leadframe	M-004 Copper and its alloys	709.056	mg	supplier	alloy	Copper (Cu)	7440-50-8		708.706	mg	999506	808103
				supplier	alloy	Zinc (Zn)	7440-66-6		0.030	mg	43	33
				supplier	alloy	Iron (Fe)	7439-89-6		0.079	mg	111	90
				supplier	alloy	Phosphorus (P)	12185-10-3		0.241	mg	340	275
Soft solder	Solder	2.279	mg	supplier	soft solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	2.108	mg	924967	2404
				supplier	soft solder	Tin (Sn)	7440-31-5		0.114	mg	50022	130
				supplier	soft solder	Silver (Ag)	7440-22-4		0.057	mg	25011	65
Encapsulation	M-011 Other inorganic materials	148.604	mg	supplier	mold compound	Amorphous silica	7631-86-9		59.441	mg	399996	67778
				supplier	mold compound	Quartz	14808-60-7		85.448	mg	575005	97432
				supplier	mold compound	Phenol resin	9003-35-4		2.972	mg	19999	3389
				supplier	mold compound	carbon black	1333-86-4		0.743	mg	5000	847
Connection coating	Solder	11.998	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		11.998	mg	1000000	13681