



## Materials Declaration Form

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

*\* : Required Field*

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2020-09-15</b>
<b>Company Unique ID</b>	<b>NL 008751171B01</b>		
<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>	<b>giovanni giacopello</b>	<b>Representative Title</b>	<b>ADG MD CHAMPION</b>
<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>	<b>true</b>	<b>Legal Declaration *</b>	<b>Standard</b>
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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
VND5E050MCKTR-E	ARV5*VNU1BAC	A	959	2020-09-15
	Amount	UoM	Unit type	ST ECOPACK Grade
	470	mg	Each	ECOPACK 2
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		
3	260	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	CD00381875	



Package Designator	Size	Nbr of instances	Shape	
QFP	10.30,7.50,2.28	24	gull wing	
Comment	PowerSSO24			

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	0.04	die	79
Lead	3.12	soft solder	6643

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	3.12	Soft solder	6643
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	3.122	Soft solder	975016

Material Composition Declaration :						Mfr Item Name	ARV5*VNU1BAC					
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	5.917	mg	supplier	die	Silicon(Si)	7440-21-3		5.484	mg	926822	11667
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.034	mg	5746	72
				supplier	metallisation	Copper(Cu)	7440-50-8		0.045	mg	7605	96
				supplier	metallisation	Gold(Au)	7440-57-5		0.008	mg	1352	17
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.037	mg	6253	79
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.146	mg	24675	311
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.026	mg	4394	55
				supplier	passivation	Silicon oxide	7631-86-9		0.070	mg	11830	149
				supplier	polymer coating	Polyimide	Proprietary		0.067	mg	11323	143
Leadframe	M-004 Copper and its alloys	162.686	mg	supplier	alloy & coating	Copper(Cu)	7440-50-8		158.349	mg	973341	336913
				supplier	alloy & coating	Iron(Fe)	7439-89-6		3.724	mg	22891	7923
				supplier	alloy & coating	Iron Phosphide(FeP)	26508-33-8		0.224	mg	1377	477
				supplier	alloy & coating	Zinc(Zn)	7440-66-6		0.195	mg	1199	415
				supplier	alloy & coating	Silver (Ag)	7440-22-4		0.194	mg	1192	413
Soft solder	Solder	3.202	mg	SVHC	solder	Lead(Pb)	7439-92-1	7a-Lead in high melting temper	3.122	mg	975015	6643
				supplier	solder	Silver(Ag)	7440-22-4		0.048	mg	14991	102
				supplier	solder	Tin(Sn)	7440-31-5		0.032	mg	9994	68
Bonding wires	M-008 Precious metals	0.205	mg	supplier	wire	Gold(Au)	7440-57-5		0.205	mg	1000000	436
Bonding wires 2	M-004 Copper and its alloys	0.658	mg	supplier	wire	Copper(Cu)	7440-50-8		0.658	mg	1000000	1400
Encapsulation	M-011 Other inorganic materials	293.475	mg	supplier	mold compound	Silica vitreous	60676-86-0		259.725	mg	884999	552606
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		15.554	mg	52999	33094
				supplier	mold compound	Phenol resin	205830-20-2		11.739	mg	40000	24977
				supplier	mold compound	Epoxy type resin	proprietary		5.870	mg	20002	12489
				supplier	mold compound	Carbon black	1333-86-4		0.587	mg	2000	1249
connections coating	Solder	3.857	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		3.857	mg	1000000	8206