



## 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>	2019-12-12
<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>		

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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
VNH5180ATR-E	ARG(*VH03DBZ	A	959	2019-12-12
	Amount	UoM	Unit type	ST ECOPACK Grade
	481	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		 life.augmented
3	260	3		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte, annealed	Copper Alloy	DM00187605	

Package Designator	Size	Nbr of instances	Shape	
DSO	10.30,7.50,2.28	36	gull wing	
Comment	PSSO36L TRIPLE PAD. MDF valid for CPs: VNH5180A-E,VNH5180ATR-E			

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 13th September 2019			
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	85
Lead	3.29	Soft solder	6832

QueryList : REACH-16th July 2019				
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	3.29	Soft solder	6832
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	3.289	Soft solder	974807

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	ARG(*VH03DBZ					
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	6.333	mg	supplier	die	Silicon(Si)	7440-21-3		5.936	mg	937312	12331
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.036	mg	5685	75
				supplier	metallisation	Copper(Cu)	7440-50-8		0.049	mg	7737	102
				supplier	metallisation	Gold(Au)	7440-57-5		0.009	mg	1421	19
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.041	mg	6474	85
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.158	mg	24949	328
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.028	mg	4421	58
				supplier	passivation	Silicon oxide	7631-86-9		0.076	mg	12001	158
				Leadframe	M-004 Copper and its alloys	151.509	mg	supplier	alloy & coating	Copper(Cu)	7440-50-8	
supplier	alloy & coating	Iron(Fe)	7439-89-6						3.468	mg	22890	7204
supplier	alloy & coating	Iron Phosphide(FeP)	26508-33-8						0.209	mg	1379	434
supplier	alloy & coating	Zinc(Zn)	7440-66-6						0.182	mg	1202	378
supplier	alloy & coating	Silver (Ag)	7440-22-4						0.209	mg	1379	434
supplier	alloy & coating	Lead(Pb)	7439-92-1					7a-Lead in high melting temper	3.289	mg	974807	6832
Soft solder	Solder	3.374	mg	supplier	solder	Silver(Ag)	7440-22-4		0.051	mg	15116	106
				supplier	solder	Tin(Sn)	7440-31-5		0.034	mg	10077	71
				supplier	wire	Gold(Au)	7440-57-5		0.640	mg	1000000	1329
Bonding wires	M-008 Precious metals	0.640	mg	supplier	wire	Copper(Cu)	7440-50-8		1.206	mg	1000000	2505
Bonding wires 2	M-004 Copper and its alloys	1.206	mg	supplier	wire	Copper(Cu)	7440-50-8		1.206	mg	1000000	2505
Encapsulation	M-011 Other inorganic materials	314.086	mg	supplier	mold compound	Silica vitreous	60676-86-0		277.966	mg	885000	577412
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		16.647	mg	53001	34580
				supplier	mold compound	Phenol resin	205830-20-2		12.563	mg	39999	26097
				supplier	mold compound	Epoxy type resin	proprietary		6.282	mg	20001	13049
				supplier	mold compound	Carbon black	1333-86-4		0.628	mg	1999	1305
connections coating	Solder	4.252	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		4.252	mg	1000000	8833