



## Materials Declaration Form

<b>IPC</b>	1752	<b>Version</b>	2
<b>Form Type *</b>	Distribute		
<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>	2018-02-07
<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>	Rossana Bonaccorso	<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
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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
VNL5160N3TR-E	FNLL*VNL2BAC	A	998G	2018-02-07
	Amount	UoM	Unit type	ST ECOPACK Grade
	110	mg	Each	ECOPACK2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
3	210	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	6.5-3.5-1.8	4	gull wing	
Comment	SOT 223			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 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 : California Prop65 list, dated 15th December 2017			
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	0.01	Die	73
Lead	1.24	Soft solder	11245

QueryList : REACH-15th January 2018				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
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				true
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	FNL*VNL2BAC					
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	1.274	mg	supplier	die	Silicon (Si)	7440-21-3		1.189	mg	933281	10809
				supplier	metallization	Aluminium (Al)	7429-90-5		0.007	mg	5494	65
				supplier	metallization	Copper (Cu)	7440-50-8		0.010	mg	7849	91
				supplier	metallization	Titanium (Ti)	7440-32-6		0.031	mg	24333	282
				supplier	Passivation	Silicon Nitride	12033-89-5		0.006	mg	4710	55
				supplier	Passivation	Silicon Oxide	7631-86-9		0.015	mg	11774	136
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.001	mg	785	9
				supplier	back side metallization	Gold (Au)	7440-57-5		0.002	mg	1570	18
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.008	mg	6279	73
				supplier	polymer die coating	PIXL Gamma-butyrolactone	96-48-0		0.005	mg	3925	45
Leadframe	M-004 Copper and its alloys	92.065	mg	supplier	alloy	Copper (Cu)	7440-50-8		91.457	mg	993396	831427
				supplier	alloy	Iron (Fe)	7439-89-6		0.092	mg	999	836
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.028	mg	304	255
				supplier	metallization	Silver (Ag)	7440-22-4		0.488	mg	5301	4436
Soft solder	Solder	1.295	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	1.237	mg	955212	11245
				supplier	solder	Silver (Ag)	7440-22-4		0.032	mg	24711	291
				supplier	solder	Tin (Sn)	7440-31-5		0.026	mg	20077	236
Bonding wires	M-011 Other inorganic materials	0.385	mg	supplier	wire	Gold (Au)	7440-57-5		0.385	mg	1000000	3500
				supplier	wire	Silver (Ag)	7440-22-4		0.026	mg	20077	236
Encapsulation	M-011 Other inorganic materials	12.219	mg	supplier	mold compound	Silica, vitreous	60676-86-0		10.618	mg	868975	96527
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.978	mg	80039	8891
				supplier	mold compound	Phenol Resin	26834-02-6		0.489	mg	40020	4445
				supplier	mold compound	Bismuth (Bi)	7440-69-9		0.073	mg	5974	664
				supplier	mold compound	Carbon black	1333-86-4		0.061	mg	4992	555
Connections coating	Solder	2.762	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		2.762	mg	1000000	25109