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 *	03/17/2020
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 Luc PETIT	Representative Title	APG group 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		

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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**
VN7003AHTR	ARGB*VH53BAY	B	SH1A	03/17/2020
	Amount	**UoM**	**Unit type**	**ST ECOPACK Grade**
	290	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	1F141490	

Package Designator	Package Size	Nbr of instances	Shape	
power	6.5 x 6.9	7	flat	
Comment	HPAK + 1 (OCTAPAK)			

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 2020/363_March 2020	
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	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	0.21	die and frame metallization no skin contact possible	728
Lead	2.60	Soft solder for power die attachment	8959

QueryList : REACH-25th June 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	2.60	Soft solder	8959
,				
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	2.598	Soft solder	955147
,			,	

QueryList : Korea Chemical Control Act_ 27 Dec 2017 update				
Query				**Response**
The Product does contain at least one of the substances listed in Chemical Control Act				false
Substance	Homogeneous Material impacted	Content in Homogeneous Material (mg)	Concentration in the material(%)	Application Purpose

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						**Mfr Item Name**	**ARGB*VH53BAY**				8000000.0	1000000.0
Homogeneous Material	**Material Group**	**Mass**	**UoM**	**Level**	**Substance Category**	**Substance**	**CAS**	**Exempt**	**Mass**	**UoM**	**Concentration in homogeneous material (ppm)**	**Concentration in product (ppm)**
Dies	M-011 Other inorganic materials	9.706	mg	supplier	die	Silicon(Si)	7440-21-3		8.958	mg	922934	30890
				supplier	metallisation	Aluminium(Al)	7429-90-5		0.168	mg	17309	579
				supplier	metallisation	Copper(Cu)	7440-50-8		0.064	mg	6594	221
				supplier	metallisation	Gold(Au)	7440-57-5		0.011	mg	1133	38
				supplier	metallisation	Nickel(Ni)	7440-02-0		0.042	mg	4327	145
				supplier	metallisation	Titanium(Ti)	7440-32-6		0.020	mg	2061	69
				supplier	metallisation	Tungsten(W)	7440-33-7		0.199	mg	20503	686
				supplier	metallisation	Vanadium(V)	7440-62-2		0.003	mg	309	10
				supplier	Passivation	Silicon nitride(SiN)	12033-89-5		0.020	mg	2061	69
				supplier	passivation	Silicon oxide	7631-86-9		0.107	mg	11024	369
				supplier	polymer coating	polyimide	proprietary		0.114	mg	11745	393
Leadframe	M-004 Copper and its alloys	191.736	mg	supplier	alloy	Copper(Cu)	7440-50-8		191.318	mg	997820	659718
				supplier	coating	Nickel(Ni)	7440-02-0		0.169	mg	881	583
				supplier	alloy	Iron(Fe)	7439-89-6		0.088	mg	459	303
				supplier	alloy	Iron Phosphide(FeP)	26508-33-8		0.161	mg	840	555
Die attach	M-015 Other organic materials	0.193	mg	supplier	tape	Epoxy resin	25068-38-6		0.121	mg	626943	417
				supplier	tape	Polypropylene	9003-07-0		0.004	mg	20725	14
				supplier	tape	epoxy resin	29690-82-2		0.019	mg	98446	66
				supplier	tape	Propenoate polymer	538311-13-6		0.039	mg	202073	134
				supplier	tape	Bisphenol A diglycidyl ether	1675-54-3		0.010	mg	51813	34
Soft solder	Solder	2.720	mg	SVHC	solder	Lead(Pb)	7439-92-1	7a-Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)	2.598	mg	955147	8959
				supplier	solder	Silver(Ag)	7440-22-4		0.068	mg	25000	234
				supplier	solder	Tin(Sn)	7440-31-5		0.054	mg	19853	186
Bonding wires	M-004 Copper and its alloys	0.153	mg	supplier	wire	Copper(Cu)	7440-50-8		0.153	mg	1000000	528
Bonding wires 2	M-003 Aluminum and its alloys	1.073	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.073	mg	1000000	3700
Encapsulation	M-011 Other inorganic materials	80.356	mg	supplier	mold compound	Silica vitreous	60676-86-0		58.659	mg	729989	202272
				supplier	mold compound	Amorphous silica	7631-86-9		6.429	mg	80006	22169
				supplier	mold compound	Epoxy type resin	proprietary		6.830	mg	84997	23552
				supplier	mold compound	Phenol type resin	proprietary		5.625	mg	70001	19397
				supplier	mold compound	Aluminium compound	proprietary		2.411	mg	30004	8314
				supplier	mold compound	Carbon black	1333-86-4		0.402	mg	5003	1386
connections coating	Solder	4.063	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		4.063	mg	1000000	14010