



## 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  <i>* : Required Field</i>

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2019-10-25
<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 Giapello	<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
STTH120R04TV1	H2DS*G18L11F	A	64BA	2019-10-25
	Amount	UoM	Unit type	ST ECOPACK Grade
	27000	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
Not Applicable	250	Not Applicable		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Nickel (Ni)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
NAC	38 - 24 - 12	N/A	NAC	
Comment	Package: ISOTOP-DBC-R4-VIS			

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 : ELV directive : 2000/53/EC amended 2017/2096 _November 2017			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			TRUE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			FALSE
Substance	amount in product (mg)	Application	ppm in product
Nickel	1181.42	Die - Leadframe - insulator - Nut - Connection isotop - Connection	43756
Lead	187.01	Soft solder - Solder paste	6926

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	187.01	Soft solder - Solder paste	6926
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	187.01	Soft solder - Solder paste	6926

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	H2D5*G18L11F					
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	175.012	mg	supplier	die	Silicon (Si)	7440-21-3		156.892	mg	896464	5811
				supplier	metallization	Aluminium (Al)	7429-90-5		2.909	mg	16622	108
				supplier	Passivation	Silicon Oxide	7631-86-9		1.666	mg	9519	62
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.014	mg	80	1
				supplier	back side metallization	Gold (Au)	7440-57-5		0.043	mg	246	2
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.200	mg	1143	7
				supplier	polymer die coating	Proprietary		13.288	mg	75926	492	
Leadframe	M-004 Copper and its alloys	8266.763	mg	supplier	alloy	Copper (Cu)	7440-50-8		8249.560	mg	997919	305539
				supplier	alloy	Phosphorus (P)	12185-10-3		8.258	mg	999	306
				supplier	alloy	Nickel (Ni)	7440-02-0		8.310	mg	1005	308
				supplier	alloy	Phosphorus (P)	12185-10-3		0.635	mg	77	24
Soft solder	Solder	200.010	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high me	187.009	mg	934998	6926
				supplier	solder	Tin (Sn)	7440-31-5		10.001	mg	50003	370
				supplier	solder	Silver (Ag)	7440-22-4		3.000	mg	14999	111
Insulator	M-010 Ceramics / glass	190.613	mg	supplier	ceramic	Nickel (Ni)	7440-02-0		2.288	mg	12003	85
				supplier	ceramic	Phosphorus (P)	12185-10-3		0.172	mg	902	6
				supplier	ceramic	Manganese (Mn)	7439-96-5		7.433	mg	38995	275
				supplier	ceramic	Titanium (Ti)	7440-32-6		0.782	mg	4103	29
				supplier	ceramic	Molybdenum oxide	1313-27-5		9.531	mg	50002	353
				supplier	ceramic	Alumina (Al2O3)	1344-28-1		170.407	mg	893995	6311
Screw	M-002 Other ferrous alloys, non-stain	7360.556	mg	supplier	screw	Iron (Fe)	7439-89-6		7360.556	mg	1000000	272613
Nut	M-006 Nickel and its alloys	1061.980	mg	supplier	nut	Nickel (Ni)	7440-02-0		1061.980	mg	1000000	39333
Bonding wires	M-003 Aluminum and its alloys	2.447	mg	supplier	wire	Aluminum(Al)	7429-90-5		2.447	mg	1000000	91
Connection isotop	M-004 Copper and its alloys	4599.883	mg	supplier	connection	Copper (Cu)	7440-50-8		4598.783	mg	999761	170325
				supplier	connection coating	Nickel (Ni)	7440-02-0		1.032	mg	224	38
				supplier	connection coating	Phosphorus (P)	12185-10-3		0.068	mg	15	3
Encapsulation	M-011 Other inorganic materials	5035.123	mg	supplier	mold compound	Silica vitreous	60676-86-0		3524.587	mg	700000	130540
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		780.444	mg	155000	28905
				supplier	mold compound	Quartz	14808-60-7		251.757	mg	50000	9324
				supplier	mold compound	Phenol resin	9003-35-4		302.106	mg	60000	11189
				supplier	mold compound	Metal hydroxide	proprietary		151.053	mg	30000	5595
				supplier	mold compound	Carbon black	1333-86-4		25.176	mg	5000	932
connections coating	M-006 Nickel and its alloys	107.613	mg	supplier	coating	Nickel (Ni)	7440-02-0		107.613	mg	1000000	3986