



## 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*

<b>Supplier Information</b>			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2019-03-20
<b>Company Unique ID</b>	NL 008751171B01		
<b>Contact Name *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Authorized Representative *</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>		

**Uncertainty Statement**


While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.

<b>Legal Statement</b>			
<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
STTH108A	HNSRE47R81E	A	ZA41	2019-03-20
	Amount	UoM	Unit type	ST ECOPACK Grade
	70	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
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SMC	4.3-2.77-2	2	J bend	
Comment	Package: SMA			

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 23rd November 2018			
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	0.02	Die	214
Lead	2.63	Soft solder	37600

QueryList : REACH-15th January 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	2.63	Soft solder	37600
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	2.63	Soft solder	924807

Material Composition Declaration :						Mfr Item Name	HNSRE47R81E					
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	1.344	mg	supplier	die	Silicon (Si)	7440-21-3		1.279	mg	951566	18271
				supplier	metallization	Aluminium (Al)	7429-90-5		0.008	mg	5952	114
				supplier	metallization	Gold (Au)	7440-57-5		0.006	mg	4464	86
				supplier	passivation	Nickel (Ni)	7440-02-0		0.006	mg	4464	86
				supplier	metallization	Titanium (Ti)	7440-32-6		0.001	mg	744	14
				supplier	Passivation	Silicon Oxide	7631-86-9		0.008	mg	5952	113
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.001	mg	744	14
				supplier	back side metallization	Gold (Au)	7440-57-5		0.002	mg	1488	29
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.009	mg	6696	129
				supplier	polymer die coating	Propimide	Proprietary		0.024	mg	17930	344
Leadframe & Clip	Copper & its alloys	26.836	mg	supplier	alloy	Copper (Cu)	7440-50-8		26.823	mg	999516	383186
				supplier	alloy	Zinc (Zn)	7440-66-6		0.001	mg	37	14
				supplier	alloy	Iron (Fe)	7439-89-6		0.003	mg	112	43
				supplier	alloy	Iron Phosphide (Fe2P)	1310-43-6		0.009	mg	335	129
Soft solder	Other organic materials	2.846	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	2.632	mg	924807	37600
				supplier	solder	Tin (Sn)	7440-31-5		0.143	mg	50246	2043
				supplier	solder	Silver (Ag)	7440-22-4		0.071	mg	24947	1014
Encapsulation	Other organic materials	38.334	mg	supplier	mold compound	Amorphous silica	7631-86-9		26.328	mg	686805	376114
				supplier	mold compound	Quartz	14808-60-7		9.590	mg	250170	137000
				supplier	mold compound	Phenol resin	9003-35-4		2.301	mg	60025	32871
				supplier	mold compound	carbon black	1333-86-4		0.115	mg	3000	1643
Connections coating	Solder	0.640	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		0.640	mg	1000000	9143