



## 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>	2018-11-29
<b>Company Unique ID</b>	NL 008751171801		
<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

**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
A1P35S12M3	S644*KL8CTY	A	Z5YA	2018-11-29
	Amount	UoM	Unit type	ST ECOPACK Grade
	24729	mg	Each	ECOPACK® 3
Comment	ECOPACK® 3 is STMicroelectronics trade name for ROHS compliant device without use of any ROHS exemption and without Halogen nor Antimony			

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
Not Applicable	Not Applicable	Not Applicable		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Not Applicable	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
Mounted BOARD	48 - 35 - 10	23	pin	
Comment	ACEPACK 1			

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	TRUE
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)	FALSE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	TRUE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	FALSE
Exemption Id.	Description

QueryList : California Prop65 list, dated 25th May 2018			
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	132.27	Die - NTC - Housing	5349

QueryList : REACH-27th June 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	S644*KLJ8CTY									
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	130.235	mg	supplier	die	Silicon (Si)	7440-21-3		121.892	mg	935939	4929				
				supplier	metallization	Aluminium (Al)	7429-90-5		3.516	mg	26997	142				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.683	mg	5244	28				
				supplier	Passivation	Silicon Oxide	7631-86-9		2.929	mg	22490	118				
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.018	mg	138	1				
				supplier	back side metallization	Gold (Au)	7440-57-5		0.019	mg	148	1				
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.230	mg	1766	9				
				supplier	back side metallization	Vanadium (V)	7440-62-2		0.011	mg	84	0				
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.058	mg	445	2				
				supplier	polymer die coating	Probimide	Proprietary		0.879	mg	6749	36				
				DBC	M-010 Ceramics / glass	8491.935	mg	supplier	Ceramic	Alumina	1344-28-1		1856.867	mg	218662	75089
								supplier	metallization	Copper (Cu)	7440-50-8		6633.123	mg	781109	268233
								supplier	metallization	Iron Phosphide (FeP)	26508-33-8		0.267	mg	31	11
supplier	metallization	Zinc (Zn)	7440-66-6						0.232	mg	27	9				
supplier	metallization	Silver (Ag)	7440-22-4						1.446	mg	171	58				
NTC	M-010 Ceramics / glass	9.245	mg	supplier	Ceramics	Manganese oxide	1313-13-9		3.179	mg	343862	129				
				supplier	Ceramics	Nickel oxide	1313-99-1		1.467	mg	158680	59				
				supplier	Ceramics	Iron(III) oxide	1309-37-1		1.549	mg	167550	63				
				supplier	Ceramics	Cobalt oxide (Co3O4)	1308-06-1		1.549	mg	167550	63				
				supplier	Ceramics	Aluminium oxide	1344-28-1		0.408	mg	44132	16				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.060	mg	6490	2				
				supplier	metallization	Tin (Sn)	7440-31-5		0.180	mg	19470	7				
				supplier	metallization	Palladium (Pd)	7440-05-3		0.199	mg	21525	8				
				supplier	metallization	Silver (Ag)	7440-22-4		0.618	mg	66847	25				
				SVHC	Glass	diboron trioxide; bor	1303-86-2		0.009	mg	974	0				
				supplier	Glass	silicon dioxide	7631-86-9		0.027	mg	2920	1				
				Pin holder	M-004 Copper and its alloys	257.922	mg	supplier	alloy	Copper (Cu)	7440-50-8		242.447	mg	940001	9804
								supplier	alloy	Tin (Sn)	7440-31-5		15.475	mg	59999	626
Pin	M-011 Other inorganic materials	957.656	mg	supplier	alloy	Copper (Cu)	7440-50-8		900.197	mg	940000	36403				
				supplier	alloy	Tin (Sn)	7440-31-5		57.459	mg	60000	2324				
Soft solder	Solder	21.814	mg	supplier	solder	Tin (Sn)	7440-31-5		21.049	mg	964931	851				
				supplier	solder	Silver (Ag)	7440-22-4		0.654	mg	29981	26				
				supplier	solder	Copper (Cu)	7440-50-8		0.109	mg	4997	4				
				SVHC	solder	Lead (Pb)	7439-92-1		0.002	mg	91	0				
Bonding wires	M-011 Other inorganic materials	191.204	mg	supplier	wire	Aluminium (Al)	7429-90-5		191.204	mg	1000000	7734				
Underfill	M-015 Other organic materials	1499.700	mg	supplier	resin	silicon gel A	proprietary		749.850	mg	500000	30323				
				supplier	resin	silicon gel B	proprietary		749.850	mg	500000	30323				
Housing	M-011 Other inorganic materials	13165.003	mg	supplier	plastic	Polyethylene terephthalate	25038-59-9		11533.653	mg	876084	466403				
				supplier	metallization	Iron (Fe)	7439-89-6		1158.258	mg	87980	46838				
				supplier	metallization	Chromium (Cr)	7440-47-3		293.643	mg	22305	11874				
				supplier	metallization	Nickel (Ni)	7440-02-0		130.508	mg	9913	5278				
				supplier	metallization	Manganese (Mn)	7439-96-5		30.996	mg	2354	1253				
				supplier	metallization	Silicium (Si)	7440-21-3		16.314	mg	1239	660				
				supplier	metallization	Carbon (C)	7440-44-0		1.631	mg	125	66				
				supplier	solder alloy	Tin (Sn)	7440-31-5		4.233	mg	1000000	171				