



Materials Declaration Form

IPC	1752	Version	2
Form Type *	Distribute		
Sectionals *	Material Info Manufacturing Info	Subsectionals *	A-D
<i>* : Required Field</i>			

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-09-07
Contact Name *	Refer to Supplier Comment section	Contact Email *	Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	Authorized Representative *	Refer to Supplier Comment section
Authorized Representative *	Rossana Bonaccorso	Representative Title	ADG 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		

Uncertainty Statement

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Legal Statement

Supplier Acceptance *	true	Legal Declaration *	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
STH320N4F6-6	R6(4*6D4KAC2	A	SH1A	2018-09-07
	Amount	UoM	Unit type	ST ECOPACK Grade
	1380	mg	Each	ECOPACK® 1
Comment	ECOPACK® or ECOPACK® 1 is STMicroelectronics trade name for ROHS compliant devices			

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	
DIP	10.2 - 9.15 - 4.5	7	Through-hole	
Comment	Package: H2PAK 6 & 7 LEAD			

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 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	1.33	Die - Leadframe	962
Lead	15.67	Soft solder	11353
Antimony trioxide	8.67	Mold compound	6283

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
-	-			0
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
-	-	0.00		

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	R6(4*6D4KAC2					
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	14.377	mg	supplier	die	Silicon (Si)	7440-21-3		13.590	mg	945260	9848
				supplier	metallization	Aluminium (Al)	7429-90-5		0.378	mg	26292	274
				supplier	Passivation	Silicon Nitride	12033-89-5		0.090	mg	6260	65
				supplier	Passivation	Silicon Oxide	7631-86-9		0.134	mg	9320	97
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.009	mg	626	7
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.130	mg	9042	94
				supplier	back side metallization	Silver (Ag)	7440-22-4		0.046	mg	3200	33
				supplier	alloy	Copper (Cu)	7440-50-8		606.024	mg	996722	439148
Leadframe	M-004 Copper and its alloys	608.017	mg	supplier	alloy	Iron (Fe)	7439-89-6		0.279	mg	459	202
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.510	mg	839	370
				supplier	metallization	Nickel (Ni)	7440-02-0		1.197	mg	1969	867
				supplier	metallization	Phosphorus (P)	7723-14-0		0.007	mg	11	5
Soft solder	Solder	16.405	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	15.667	mg	955014	11353
				supplier	solder	Silver (Ag)	7440-22-4		0.410	mg	24992	297
				supplier	solder	Tin (Sn)	7440-31-5		0.328	mg	19994	238
Bonding wires	M-011 Other inorganic materials	0.233	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.232	mg	995708	168
				supplier	wire	Magnesium (Mg)	7439-95-4		0.001	mg	4292	1
Bonding Ribbons	M-009 Other non-ferrous metals and	16.723	mg	supplier	Ribbon	Aluminium (Al)	7429-90-5		16.723	mg	1000000	12118
Encapsulation	M-011 Other inorganic materials	722.155	mg	supplier	mold compound	Silica, vitreous	60676-86-0		594.333	mg	822999	430676
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		50.551	mg	70000	36631
				supplier	mold compound	Phenol resin	9003-35-4		28.886	mg	40000	20932
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		21.665	mg	30000	15699
				supplier	mold compound	Antimony Trioxide	1309-64-4		8.666	mg	12000	6280
				supplier	mold compound	Brominated Epoxy Resin	40039-93-8		14.443	mg	20000	10466
Connections coating	Solder	2.090	mg	supplier	mold compound	Carbon black	1333-86-4		3.611	mg	5001	2617
				supplier	solder alloy	Tin (Sn)	7440-31-5		2.090	mg	1000000	1514