



## 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>	2018-10-08
<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
SMAJ188CA-TR	8HST*TWB221D	A	64BA	2018-10-08
Amount	UoM	Unit type	ST ECOPACK Grade	
70.00	mg	Each	ECOPACK2	
	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	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOJ	4.14-2.76-1.94	2	J bend	
Comment	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 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	0.05	Die - Leadfame	729
Lead	1.38	Soft solder	19671

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				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	1.377	Soft solder	19671
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	1.377	Soft solder	919840

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	8HST*TWB221D									
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	1.623	mg	supplier	die	Silicon (Si)	7440-21-3		1.573	mg	969193	22471				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.009	mg	5545	129				
				supplier	metallization	Gold (Au)	7440-57-5		0.007	mg	4313	100				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.007	mg	4313	100				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.009	mg	5545	129				
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.006	mg	3697	86				
				supplier	back side metallization	Gold (Au)	7440-57-5		0.002	mg	1233	29				
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.010	mg	6161	143				
				supplier	alloy	Copper (Cu)	7440-50-8		29.767	mg	997453	425243				
				supplier	alloy	Iron (Fe)	7439-89-6		0.030	mg	1005	426				
Leadframe	M-004 Copper and its alloys	29.843	mg	supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.009	mg	302	129				
				supplier	metallization	Nickel (Ni)	7440-02-0		0.034	mg	1139	486				
				supplier	metallization	Phosphorus (P)	7723-14-0		0.003	mg	101	43				
				supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	1.377	mg	919840	19671				
				supplier	solder	Silver (Ag)	7440-22-4		0.037	mg	24716	529				
				supplier	solder	Tin (Sn)	7440-31-5		0.075	mg	50100	1071				
Soft solder	Solder	1.497	mg	JIG - R	solder	Flux residue	Proprietary		0.008	mg	5344	114				
				supplier	solder	Amorphous Silica	7631-86-9		18.140	mg	730980	259143				
				supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		4.715	mg	189998	67357				
				supplier	mold compound	Phenol resin	9003-35-4		0.745	mg	30021	10643				
				supplier	mold compound	Bisphenol A-bisphenol A diglycidyle ether poly	25036-25-3		0.745	mg	30021	10643				
				supplier	mold compound	Carbon black	1333-86-4		0.223	mg	8986	3186				
				supplier	mold compound	Triphenylphosphine	603-35-0		0.174	mg	7012	2486				
				supplier	mold compound	3-Mercaptopropyl trimethoxysilane	4420-74-0		0.074	mg	2982	1057				
				connections coating	Solder	0.741	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		0.741	mg	1000000	10586
				Clip	M-004 Copper and its alloys	11.480	mg	supplier	alloy	Copper (Cu)	7440-50-8		11.480	mg	1000000	164000