



## 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>	2019-06-03
<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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<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
STPSC20H12G-TR	BSD2*HC021T7	A	3068	2019-06-03
Amount	UoM	Unit type	ST ECOPACK Grade	
1480.00	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	245	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy		
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape
SIP	10.2-9.15-4.5	2	gull wing
Comment	D2PAK		

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 8th March 2019			
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	0.20	Die - Leadframe	135
Lead	7.39	Soft solder	4993

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	7.39	Soft solder	4993
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	7.39	Soft solder	954904

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	BSD2*HC02117					
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	7.821	mg	supplier	die	Silicium carbide	409-21-2		7.405	mg	946810	5003
				supplier	metallization	Aluminium (Al)	7429-90-5		0.083	mg	10612	56
				supplier	metallization	Gold (Au)	7440-57-5		0.012	mg	1534	8
				supplier	metallization	Nickel (Ni)	7440-02-0		0.066	mg	8439	45
				supplier	metallization	Silver (Ag)	7440-22-4		0.141	mg	18028	95
				supplier	metallization	Titanium (Ti)	7440-32-6		0.005	mg	639	3
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.004	mg	511	3
				supplier	back side metallization	Gold (Au)	7440-57-5		0.012	mg	1534	8
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.057	mg	7288	39
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.036	mg	4605	24
Leadframe	M-004 Copper and its alloys	778.632	mg	supplier	alloy	Copper (Cu)	7440-50-8		777.537	mg	998594	525363
				supplier	alloy	Iron (Fe)	7439-89-6		0.358	mg	460	242
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.654	mg	839	441
				supplier	metallization	Nickel (Ni)	7440-02-0		0.077	mg	99	52
				supplier	metallization	Phosphorus (P)	7723-14-0		0.006	mg	8	4
				supplier	alloy	Lead (Pb)	7439-92-1	7a-Lead in high mel	7.390	mg	954904	4993
Soft solder	Solder	7.739	mg	JIG - R	solder	Lead (Pb)	7439-92-1		0.194	mg	25068	131
				supplier	solder	Silver (Ag)	7440-22-4		0.155	mg	20028	105
				supplier	solder	Tin (Sn)	7440-31-5		4.340	mg	1000000	2932
Bonding wires	M-011 Other inorganic materials	4.340	mg	supplier	wire	Aluminium (Al)	7429-90-5		594.107	mg	875001	401424
Encapsulation	M-011 Other inorganic materials	678.979	mg	supplier	mold compound	Silica, vitreous	60676-86-0		27.159	mg	40000	18351
				supplier	mold compound	Tetramethyl-biphenyl-diy-bis oxymethylene b	85954-11-6		20.369	mg	29999	13763
				supplier	mold compound	phenol resin	29690-82-2		33.949	mg	50000	22939
				supplier	mold compound	Carbon black	1333-86-4		3.395	mg	5000	2294
				supplier	solder alloy	Tin (Sn)	7440-31-5		2.489	mg	1000000	1682
Connections coating	Solder	2.489	mg	supplier	solder alloy	Tin (Sn)	7440-31-5					