



## 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>	2018-01-31
<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 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**

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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
TS820-800BM-TR	BGDP*P1G088Q	A	998G	2018-01-31
	Amount	UoM	Unit type	ST ECOPACK Grade
	320	mg	Each	ECOPACK2

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
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	
SIP	6.5-6.1-2.3	3	GULL WING	
Comment	TO 252 DPAK			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-April 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)
7c-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound

QueryList : California Prop65 list, dated 15th December 2017			
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	1.14	Die - Leadframe	3553
Lead	2.86	Soft solder	8928
Lead-Borate Glass	0.40	Die	1259

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
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	BGDP*P1G088Q					
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	2.520	mg	supplier	die	Silicon (Si)	7440-21-3		1.977	mg	784524	6178
				supplier	metallization	Aluminium (Al)	7429-90-5		0.069	mg	27381	216
				supplier	metallization	Gold (Au)	7440-57-5		0.008	mg	3174	25
				supplier	metallization	Nickel (Ni)	7440-02-0		0.012	mg	4762	38
				supplier	Passivation	Silicon Oxide	7631-86-9		0.018	mg	7143	56
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.011	mg	4365	34
				supplier	back side metallization	Gold (Au)	7440-57-5		0.004	mg	1587	13
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.018	mg	7143	56
Leadframe	M-004 Copper and its alloys	166.052	mg	JIG - R & California 65	glass coating	Lead-Borate Glass	65997-18-4	7c-4-Electrical and e	0.403	mg	159921	1259
				supplier	alloy	Copper (Cu)	7440-50-8		164.730	mg	992039	514781
				supplier	alloy	Iron (Fe)	7439-89-6		0.165	mg	993	516
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.050	mg	301	156
Soft solder	Solder	2.569	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	2.454	mg	955236	7669
				supplier	solder	Silver (Ag)	7440-22-4		0.064	mg	24912	200
				supplier	solder	Tin (Sn)	7440-31-5		0.051	mg	19852	159
				supplier	wire	Aluminium (Al)	7429-90-5		0.473	mg	1000000	1478
Encapsulation	M-011 Other inorganic materials	147.341	mg	supplier	mold compound	Silica, vitreous	60676-86-0		132.239	mg	897503	413247
				supplier	mold compound	Epoxy resin	25068-38-6		10.314	mg	70001	32231
				supplier	mold compound	Phenol resin	29690-82-2		4.420	mg	29998	13813
connections coating	Solder	1.045	mg	supplier	mold compound	carbon black	1333-86-4		0.368	mg	2498	1150
				supplier	solder alloy	Tin (Sn)	7440-31-5		1.045	mg	1000000	3266