



## Materials Declaration Form


<b>IPC Form Type *</b>	<b>1752 Distribute</b>	<b>Version</b>	<b>2</b>
<b>Sectionals *</b>	<b>Material Info Manufacturing Info</b>	<b>Subsectionals *</b>	<b>A-D</b>

*\* : Required Field*

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2018-08-06</b>
<b>Company Unique ID</b>	<b>NL 008751171B01</b>		
<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>	<b>MDG MD CHAMPION</b>	<b>Representative Title</b>	<b>MDG MD CHAMPION</b>
<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	
<p>While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.</p>	
Legal Statement	
<b>Supplier Acceptance *</b>	<b>true</b>
<b>Legal Declaration *</b>	<b>Standard</b>
<b>Legal Statement</b>	<p>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.</p>

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32L431CCU6TR	72MI*435XXXZ	A	998Z	2018-08-06
	Amount	UoM	Unit type	ST ECOPACK Grade
	98.20	mg	Each	ECOPACK® 2
	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
3	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable; if coating is used or other bulk termination	Tin (Sn), immersion	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	7X7X0.55	48	No lead	
Comment	Package : A0B9 UFQFPN 7X7X0.55 48L 0.5 MM PITCH 8202210			

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	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 : REACH-12th January 2017				
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

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	72MI*435XXXZ				5999999.0	1000001.9
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die or dies	M-011 Other inorganic materials	3.511	mg	supplier	die	Silicon (Si)	7440-21-3		3.171	mg	903161	32292
				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	4557	163
				supplier	metallization	Copper (Cu)	7440-50-8		0.144	mg	41014	1466
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.047	mg	13386	479
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	570	20
				supplier	metallization	Tungsten (W)	7440-33-7		0.001	mg	285	10
				supplier	Passivation	Silicon Nitride	12033-89-5		0.037	mg	10538	377
				supplier	Passivation	Silicon Oxide	7631-86-9		0.093	mg	26488	947
				Supplier	Metals	Silver	7440-22-4		0.751	mg	787329	7651
				Die Attach Epoxy_ABLEBOND 8290_H	M-011 Other inorganic materials	0.954	mg	Supplier	Organic Compounds	Epoxy Resin 1	Proprietary	
Supplier	Organic Compounds	Epoxy Resin 2	Proprietary						0.024	mg	24750	241
Supplier	Organic Compounds	Gamma Butyrolactone	96-48-0						0.052	mg	54129	526
Supplier	Organic Compounds	Epoxy Resin 3	Proprietary						0.024	mg	24750	241
Supplier	Organic Compounds	Amine	Proprietary						0.024	mg	24750	241
Supplier	Metallic compounds	Copper Oxide	1317-38-0						0.052	mg	54129	526
Supplier	Organic Compounds	1,4-Bis(2,3-epoxypropoxy) butane	2425-79-8						0.005	mg	5413	53
EMC_G770_Sumitomo	M-011 Other inorganic materials	35.411	mg	Supplier	Organic Compounds	Epoxy Resin A	Proprietary		0.702	mg	19837	7153
				Supplier	Organic Compounds	Epoxy Resin B	Proprietary		0.702	mg	19837	7153
				Supplier	Organic Compounds	Phenol Resin A	Proprietary		0.702	mg	19837	7153
				Supplier	Organic Compounds	Phenol Resin B	Proprietary		0.702	mg	19837	7153
				Supplier	Glass	Silica (Amorphous) A	60676-86-0		25.937	mg	732452	264128
				Supplier	Glass	Silica (Amorphous) B	7631-86-9		5.764	mg	162767	58695
				Supplier	Metallic compounds	Metal Hydroxide	Proprietary		0.702	mg	19837	7153
				Supplier	Additives	Carbon Black	1333-86-4		0.198	mg	5595	2018
BondingWire_Au_MKE	Bonding Wire	0.750	mg	Supplier	Metals	Gold	7440-57-5		0.750	mg	1000000	7643
Anode Ball_Tin_Asahi	Metals	3.693	mg	Supplier	Metals	Tin	7440-31-5		3.693	mg	1000000	37605
Leadframe_C7+Ag_HDS	Metals	53.878	mg	Supplier	Metals	Nickel	7440-02-0		1.582	mg	29365	16112
				Supplier	Glass	Silicon	7440-21-3		0.350	mg	6500	3566
				Supplier	Metals	Magnesium	7439-95-4		0.084	mg	1565	859
				Supplier	Metals	Silver	7440-22-4		3.394	mg	63000	34566
				Supplier	Metals	Copper	7440-50-8		48.467	mg	899570	493571