



## 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*

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	16-01-2019
<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>	MDG MD CHAMPION	<b>Representative Title</b>	MDG 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	
	<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>	true
	<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
STM32L431RBI6 STM32L431RBI6TR	P521*435XXXZ	A	9996	16-01-2019
	Amount	UoM	Unit type	ST ECOPACK Grade
	34.40	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	
SOLDERBALL (Sn96.5Ag3.5)	NAC	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
BGA	5,5,0.6	64	No lead	
Comment	Package : A019 UFBGA 5X5X0.6 64L P 0.5 MM 8526322			

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 : 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	2.34	Underlayer Plating	68082

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				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	P521*435XXXZ				5999999.0	1000006.0
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	2.095	mg	supplier	die	Silicon (Si)	7440-21-3		1.755	mg	837709	51017
				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	7637	465
				supplier	metallization	Copper (Cu)	7440-50-8		0.144	mg	68735	4186
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.047	mg	22434	1366
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	955	58
				supplier	metallization	Tungsten (W)	7440-33-7		0.001	mg	477	29
				supplier	Passivation	Silicon Nitride	12033-89-5		0.037	mg	17661	1076
				supplier	Passivation	Silicon Oxide	7631-86-9		0.093	mg	44391	2703
				supplier	CORE	Glass Cloth	65997-17-3		0.917	mg	57700	26651
				supplier	CORE	Epoxy resin	61788-97-4		0.165	mg	10400	4804
SUBSTRATE (DS7409HGB)	M-011 Other inorganic materials	15.889	mg	supplier	CORE	Flame resistant epoxy resin	223769-10-6		0.146	mg	9200	4249
				supplier	CORE	Heat resistant resin	25722-66-1		0.146	mg	9200	4249
				supplier	CORE	Silica filler	7631-86-9		0.348	mg	21900	10115
				supplier	CORE	Metal Hydroxide	Proprietary		0.275	mg	17300	7991
				supplier	CORE	Copper foil	7440-50-8		1.668	mg	105000	48498
				supplier	SOLDERMASK (AUS308)	Talc containing no asbestiform fibers	14807-96-6		0.130	mg	8200	3787
				supplier	SOLDERMASK (AUS308)	Barium sulfate	7727-43-7		2.180	mg	137200	63371
				supplier	SOLDERMASK (AUS308)	Dipropylene monomethyl ether	34590-94-8		0.879	mg	55300	25542
				supplier	SOLDERMASK (AUS308)	Napthalene	91-20-3		0.334	mg	21000	9700
				supplier	SOLDERMASK (AUS308)	Morpholine derivative	Proprietary		0.365	mg	23000	10623
				supplier	CU PLATING	Copper (Cu)	7440-50-8		5.653	mg	355800	164340
				supplier	NI PLATING	Nickel (Ni)	7440-02-0		2.342	mg	147400	68082
				supplier	AU PLATING	Gold (Au)	7440-57-5		0.340	mg	21400	9884
				DIE ATTACH (ATB-130U)	M-011 Other inorganic materials	0.264	mg	supplier	GLUE	Butadiene,acrylonitrile polymer,carboxy-termi	68610-41-3	
supplier	GLUE	Phenol-formaldehyde polymer	9003-35-4						0.026	mg	100000	766
supplier	GLUE	Phenol polymer with formaldehyde,glycidyl et	28064-14-4						0.024	mg	92000	705
supplier	GLUE	Dapsone	80-08-0						0.026	mg	97000	743
supplier	GLUE	Reaction product bisphenol-A-(epichlorhydrin	25068-38-6						0.003	mg	10000	77
supplier	GLUE	4,4, Isopropylidenediphenol	80-05-7						0.000	mg	1000	8
BONDING WIRE (MKE 4N)	M-011 Other inorganic materials	0.328	mg	supplier	BONDING WIRE	Gold (Au)	7440-57-5		0.328	mg	1000000	9545
SOLDERBALL (Sn96.5Ag3.5)	M-011 Other inorganic materials	1.987	mg	supplier	SOLDERBALL	Tin (Sn)	7440-31-5		1.918	mg	965000	55748
				supplier	SOLDERBALL	Silver (Ag)	7440-22-4		0.070	mg	35000	2022
ENCAPSULATION (GE-100LFC5)	M-011 Other inorganic materials	12.076	mg	supplier	MOLDING COMPOUND	Silica fused (SiO2)	60676-86-0		12.420	mg	897588	361047
				supplier	MOLDING COMPOUND	Epoxy resin	Proprietary		0.638	mg	46085	18537
				supplier	MOLDING COMPOUND	Phenol resin	Proprietary		0.567	mg	40965	16478
				supplier	MOLDING COMPOUND	Metal Hydroxide	Proprietary		0.142	mg	10241	4119
				supplier	MOLDING COMPOUND	Carbon black	1333-86-4		0.071	mg	5121	2060