Materials Declaration Form

IPC	**1752**	**Version**	**2**
Form Type *	Distribute		
Sectionals *	Material Info Manufacturing Info	**Subsectionals ***	A-D
			***: Required Field**

Supplier Information			
Company Name *	STMicroelectronics	**Response Date ***	2018-09-03
Company Unique ID	NL 008751171B01		
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Contact Phone *	Refer to Supplier Comment section	**Contact Email ***	Refer to Supplier Comment section
Authorized Representative *	MDG MD CHAMPION	**Representative Title**	MDG MD CHAMPION
Representative Phone *	Refer to Supplier Comment section	**Representative Email ***	Refer to Supplier Comment section
Supplier Comment	Online Technical Support - STMicroelectronics : http://www.st.com/web/en/support/support.html		

Uncertainty Statement

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.

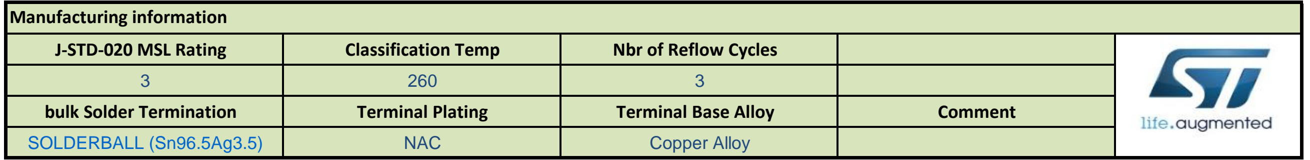
Legal Statement

Supplier Acceptance *	true	**Legal Declaration ***	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 omprehensive 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**
STM32L451RCI6	P42I*462XXXY	A	9996	2018-09-03
	Amount	UoM	**Unit type**	**ST ECOPACK Grade**
	26.800	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**		
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 : 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**	**P42I*462XXXY**				6000000.0	0.0
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	2.612	mg	supplier	die	Silicon (Si)	7440-21-3		2.188	mg	837672	81642
				supplier	metallization	Aluminium (Al)	7429-90-5		0.020	mg	7657	746
				supplier	metallization	Copper (Cu)	7440-50-8		0.180	mg	68913	6716
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.058	mg	22205	2164
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	766	75
				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	766	75
				supplier	Passivation	Silicon Nitride	12033-89-5		0.046	mg	17611	1716
				supplier	Passivation	Silicon Oxide	7631-86-9		0.116	mg	44410	4328
SUBSTRATE (DS7409HGB)	M-011 Other inorganic materials	8.881	mg	supplier	CORE	Glass Cloth	65997-17-3		0.512	mg	57700	19120
				supplier	CORE	Epoxy resin	61788-97-4		0.092	mg	10400	3446
				supplier	CORE	Flame resistant epoxy resin	223769-10-6		0.082	mg	9200	3049
				supplier	CORE	Heat resistant resin	25722-66-1		0.082	mg	9200	3049
				supplier	CORE	Silica filler	7631-86-9		0.194	mg	21900	7257
				supplier	CORE	Metal Hydroxide	Proprietary		0.154	mg	17300	5733
				supplier	CORE	Copper foil	7440-50-8		0.933	mg	105000	34795
				supplier	SOLDERMASK (AUS308)	Talc containing no asbestiform fibers	14807-96-6		0.073	mg	8200	2717
				supplier	SOLDERMASK (AUS308)	Barium sulfate	7727-43-7		1.218	mg	137200	45465
				supplier	SOLDERMASK (AUS308)	Dipropylene glycol monomethyl ether	34590-94-8		0.491	mg	55300	18325
				supplier	SOLDERMASK (AUS308)	Napthalene	91-20-3		0.187	mg	21000	6959
				supplier	SOLDERMASK (AUS308)	Morpholine derivative	Proprietary		0.204	mg	23000	7622
				supplier	CU PLATING	Copper (Cu)	7440-50-8		3.160	mg	355800	117904
				supplier	NI PLATING	Nickel (Ni)	7440-02-0		1.309	mg	147400	48845
				supplier	AU PLATING	Gold (Au)	7440-57-5		0.190	mg	21400	7091
DIE ATTACH (ATB-130U)	M-011 Other inorganic materials	0.322	mg	supplier	GLUE	Butadiene,acrylonitrile polymer,carboxy-termi	68610-41-3		0.226	mg	700000	8418
				supplier	GLUE	Phenol-formaldehyde polymer	9003-35-4		0.032	mg	100000	1203
				supplier	GLUE	Phenol polymer with formaldehyde,glycidyl et	28064-14-4		0.030	mg	92000	1106
				supplier	GLUE	Dapsone	80-08-0		0.031	mg	97000	1166
				supplier	GLUE	Reaction product bisphenol-A-(epichlorhydrin	25068-38-6		0.003	mg	10000	120
				supplier	GLUE	4,4, Isopropylidenediphenol	80-05-7		0.000	mg	1000	12
BONDING WIRE (MKE 4N)	M-011 Other inorganic materials	0.289	mg	supplier	BONDING WIRE	Gold (Au)	7440-57-5		0.289	mg	1000000	10791
SOLDERBALL (Sn96.5Ag3.5)	M-011 Other inorganic materials	1.987	mg	supplier	SOLDERBALL	Tin (Sn)	7440-31-5		1.918	mg	965000	71557
				supplier	SOLDERBALL	Silver (Ag)	7440-22-4		0.070	mg	35000	2595
ENCAPSULATION (GE-100LFCS)	M-011 Other inorganic materials	12.708	mg	supplier	MOLDING COMPOUND	Silica fused (SiO2)	60676-86-0		11.395	mg	900000	-574804
				supplier	MOLDING COMPOUND	Epoxy resin	Proprietary		0.591	mg	45000	22048
				supplier	MOLDING COMPOUND	Phenol resin	Proprietary		0.525	mg	40000	19599
				supplier	MOLDING COMPOUND	Metal Hydroxide	Proprietary		0.131	mg	10000	4900
				supplier	MOLDING COMPOUND	Carbon black	1333-86-4		0.066	mg	5000	2450