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 ***	29-03-2023
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 *	Material Declaration champion	**Representative Title**	Material Declaration 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

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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.		

Signature Not
Verified

Digitally signed by
MDF Champion
Date: 2023.03.29
13:06:04 +08:00

Product				
Mfr Item Number	**Mfr Item Name**	**Version**	**Mfr Site**	**Date**
STM32L431RCI6 STM32L431RCI6TR	262I*435XXXZ	A	9991	29-03-2023
	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**		
3	260	3		
bulk Solder Termination	**Terminal Plating**	**Terminal Base Alloy**	**Comment**	
Not Applicable ; if coating is used or other bulk termaination : add in comments	NAC	Copper Alloy	**96.5SN/3.5AG**	

Package Designator	**Size**	**Nbr of instances**	**Shape**	
BGA	5x5	64	bulk solder	
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-10 Jun 2022	
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**	**262I*435XXXZ**				6000000.0	1000000.1
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	1.754	mg	supplier	die	Silicon (Si)	7440-21-3		1.414	mg	806157	41106
				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	9122	465
				supplier	metallization	Copper (Cu)	7440-50-8		0.144	mg	82098	4186
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.047	mg	26796	1366
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	1140	58
				supplier	metallization	Tungsten (W)	7440-33-7		0.001	mg	570	29
				supplier	Passivation	Silicon Nitride	12033-89-5		0.037	mg	21095	1076
				supplier	Passivation	Silicon Oxide	7631-86-9		0.093	mg	53022	2704
Substrate (A281380)	M-011 Other inorganic materials	10.990	mg	supplier	BT-substrate	Thermosetting resin (Inorganic filler)	Proprietary		0.659	mg	60000	19169
				supplier	BT-substrate	Glass cloth	65997-17-3		4.077	mg	371000	118529
				supplier	BT-substrate	Copper foil	7440-50-8		5.022	mg	457000	146005
				supplier	Solder mask	2-benzyl-2-dimethylamino-4-morpholinobutyro	119313-12-1		0.390	mg	35500	11342
				supplier	Solder mask	Naphtha (petroleum), heavy aromatic	64742-94-5		0.401	mg	36500	11661
				supplier	Solder mask	TALC (CONTAINING NO ASBESTOS FIBRES)	14807-96-6		0.368	mg	33500	10703
				supplier	Solder mask	1,3,5-Triazine-2,4,6-triamine	108-78-1		0.071	mg	6500	2077
DAF (ATB-125-12)	M-011 Other inorganic materials	2.570	mg	supplier	film	Butadiene, acrylonitrile polymer, carboxy-termi	68610-41-3		1.764	mg	686250	51271
				supplier	film	Formaldehyde, polymer with (chloromethyl)oxi	37382-79-9		0.660	mg	256850	19190
				supplier	film	Dapsone	80-08-0		0.095	mg	36900	2757
				supplier	film	[3-(2,3-Epoxypropoxy)propyl]trimethoxysilane	2530-83-8		0.026	mg	10000	747
				supplier	film	Reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6		0.026	mg	10000	747
Bonding wire (Copper 0.8mils)	Precious metals	0.502	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		0.002	mg	3500	51
				supplier	Bonding wire	Copper (Cu)	7440-50-8		0.485	mg	965500	14090
				supplier	Bonding wire	Palladium (Pd)	7440-05-3		0.016	mg	31000	452
Encapsulation (G1250AAS ULA)	M-011 Other inorganic materials	17.027	mg	supplier	Molding Compound	Epoxy resin	Trade secret		0.681	mg	40000	19799
				supplier	Molding Compound	Silica(Fused)	60676-86-0,7631-86-9		15.324	mg	900000	445487
				supplier	Molding Compound	Phenol resin	Trade secret		0.954	mg	56000	27719
				supplier	Molding Compound	Carbon Black	1333-86-4		0.068	mg	4000	1980
Solder balls (96.5SN/3.5AG)	Solder	1.556	mg	supplier	Solder	Tin (Sn)	7440-31-5		1.501	mg	964500	43628
				supplier	Solder	Silver(Ag)	7440-22-4		0.055	mg	35500	1606