



Materials Declaration Form

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


Supplier Information			
Company Name *	STMicroelectronics	Response Date *	2018-11-05
Contact Name *	Refer to Supplier Comment section		Refer to Supplier Comment section
Authorized Representative *	LAURENT TOSI	Representative Title	MDG MD CHAMPION
Representative Phone *	33 442 685 795	Representative Email *	laurent.tosi@st.com
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	<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 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.</p>		

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STM32L451VEI6	P3MJ*462XXXY	A	9996	2018-11-05
	Amount	UoM	Unit type	ST ECOPACK Grade
	52.50	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	7x7x0.6	100	No lead	
Comment	Package: A0C2 UFBGA 7x7x0.60 100L R12sq P0.5 8219030			

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	P3MJ*462XXXY									
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)				
Die	Other inorganic materials	2.613	mg	supplier	die	Silicon (Si)	7440-21-3		2.189	mg	837734	41695				
				supplier	metallization	Aluminium (Al)	7429-90-5		0.020	mg	7654	381				
				supplier	metallization	Copper (Cu)	7440-50-8		0.180	mg	68886	3429				
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.058	mg	22197	1105				
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	765	38				
				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	765	38				
				supplier	Passivation	Silicon Nitride	12033-89-5		0.046	mg	17604	876				
				supplier	Passivation	Silicon Oxide	7631-86-9		0.116	mg	44393	2210				
				supplier	CORE	Glass Cloth	65997-17-3		1.349	mg	84900	25687				
				supplier	CORE	Epoxy resin	61788-97-4		0.318	mg	20000	6051				
SUBSTRATE (DS7409HGB)	Other inorganic materials	15.884	mg	supplier	CORE	Flame resistant epoxy resin	223769-10-6		0.318	mg	20000	6051				
				supplier	CORE	Heat resistant resin	25722-66-1		0.318	mg	20000	6051				
				supplier	CORE	Silica filler	7631-86-9		0.793	mg	49900	15097				
				supplier	CORE	Metal Hydroxide	Trade secret		0.079	mg	5000	1513				
				supplier	COPPER FOIL	Copper (Cu)	7440-50-8		3.172	mg	199700	60420				
				supplier	SOLDERMASK (AUS308)	Talc containing no asbestiform fibers	14807-96-6		0.097	mg	6100	1846				
				supplier	SOLDERMASK (AUS308)	Barium sulfate	7727-43-7		1.563	mg	98400	29771				
				supplier	SOLDERMASK (AUS308)	Dipropylene monomethyl ether	34590-94-8		0.462	mg	29100	8804				
				supplier	SOLDERMASK (AUS308)	Napthalene	91-20-3		0.048	mg	3000	908				
				supplier	SOLDERMASK (AUS308)	Morpholine derivative	Trade secret		0.238	mg	15000	4538				
				supplier	CU PLATING	Copper (Cu)	7440-50-8		6.109	mg	384600	116362				
				supplier	NI PLATING	Nickel (Ni)	7440-02-0		0.913	mg	57500	17397				
				supplier	AU PLATING	Gold (Au)	7440-57-5		0.108	mg	6800	2057				
				DIE ATTACH (ATB-130U)	Other inorganic materials	0.716	mg	supplier	GLUE	Butadiene,acrylonitrile polymer,carboxy-termi	68610-41-3		0.501	mg	700000	9550
								supplier	GLUE	Phenol-formaldehyde polymer	9003-35-4		0.072	mg	100000	1364
supplier	GLUE	Phenol polymer with formaldehyde,glycidyl et	28064-14-4						0.067	mg	93000	1269				
supplier	GLUE	Dapson	80-08-0						0.068	mg	95000	1296				
supplier	GLUE	Reaction product bisphenol-A-(epichlorhydrin	25068-38-6						0.007	mg	10000	136				
supplier	GLUE	4,4, Isopropylidenediphenol	80-05-7						0.001	mg	2000	27				
BONDING WIRE (MKE 4N)	Other inorganic materials	0.954	mg	supplier	BONDING WIRE	Gold (Au)	7440-57-5		0.954	mg	1000000	18164				
SOLDERBALL (Sn96.5Ag3.5)	Other inorganic materials	3.105	mg	supplier	SOLDERBALL	Tin (Sn)	7440-31-5		2.996	mg	964895	57067				
				supplier	SOLDERBALL	Silver (Ag)	7440-22-4		0.109	mg	35105	2076				
ENCAPSULATION (GE-100LFC5)	Other inorganic materials	29.228	mg	supplier	MOLDING COMPOUND	Silica fused (SiO2)	60676-86-0		26.263	mg	898550	500248				
				supplier	MOLDING COMPOUND	Epoxy resin	Trade secret		1.334	mg	45652	25416				
				supplier	MOLDING COMPOUND	Phenol resin	Trade secret		1.186	mg	40580	22592				
				supplier	MOLDING COMPOUND	Metal Hydroxide	Trade secret		0.297	mg	10145	5648				
				supplier	MOLDING COMPOUND	Carbon black	1333-86-4		0.148	mg	5072	2824				