




## Materials Declaration Form

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

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2018-11-01</b>
<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>	<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	
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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
STM32L451CCU3 STM32L451CCU3TR	S6MI*462XXXY	A	998Z	2018-11-01
	Amount	UoM	Unit type	ST ECOPACK Grade
	97.87	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), matte	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	S6MI*462XXXY				6000001.0	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	23.038	mg	supplier	die	Silicon (Si)	7440-21-3		22.614	mg	981596	231055
				supplier	metallization	Aluminium (Al)	7429-90-5		0.020	mg	868	204
				supplier	metallization	Copper (Cu)	7440-50-8		0.180	mg	7813	1839
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.058	mg	2518	593
				supplier	metallization	Titanium (Ti)	7440-32-6		0.002	mg	87	20
				supplier	metallization	Tungsten (W)	7440-33-7		0.002	mg	87	20
				supplier	Passivation	Silicon Nitride	12033-89-5		0.046	mg	1997	470
				supplier	Passivation	Silicon Oxide	7631-86-9		0.116	mg	5035	1185
				Supplier	Metals	Silver	7440-22-4		0.672	mg	704535	6869
				Die Attach Epoxy_EPOXY 8290_Henke	M-011 Other inorganic materials	0.954	mg	Supplier	Plastics/polymers	Bisphenol-F, epoxy resin	9003-36-5	
Supplier	Polymers	Fatty acids, polymers with epichlorohydrin	68475-94-5						0.046	mg	48437	472
Supplier	Organic Compounds	Gamma Butyrolactone	96-48-0						0.046	mg	48437	472
Supplier	Epoxy Resin	Epoxy Resin	Proprietary						0.046	mg	48437	472
Supplier	Amines	Poly(Oxy(methyl-1, 2-ethanediyl))	9046-10-0						0.046	mg	48437	472
Supplier	Metallic compounds	Copper Oxide	1317-38-0						0.046	mg	48437	472
Supplier	Organic Compounds	1,4-Bis(2,3-epoxypropoxy) butane	2425-79-8						0.005	mg	4844	47
Mold Compound_EME-G770_Sumitor	M-011 Other inorganic materials	15.883	mg					Supplier	Epoxy Resin	Epoxy Resin A	Proprietary	
				Supplier	Epoxy Resin	Epoxy Resin B	Proprietary		0.702	mg	19837	7177
				Supplier	Phenol Resin	Phenol Resin A	Proprietary		0.702	mg	19837	7177
				Supplier	Phenol Resin	Phenol Resin B	Proprietary		0.702	mg	19837	7177
				Supplier	Glass	Silica (Amorphous) A	60676-86-0		6.409	mg	732452	-934514
				Supplier	Glass	Silica (Amorphous) B	7631-86-9		5.764	mg	162767	58889
				Supplier	Metallic compounds	Metal Hydroxide	Proprietary		0.702	mg	19837	7177
				Supplier	Additives	Carbon Black	1333-86-4		0.198	mg	5595	2024
Bonding wire_WIRE AG 0.8MIL SI TYP	Bonding Wire	0.427	mg	Supplier	Metals	Silver	7440-22-4		0.410	mg	960000	4184
				Supplier	Metals	Others	Proprietary		0.017	mg	40000	174
Anode Ball_Pure Tin_Nuo Nengda	M-011 Other inorganic materials	3.693	mg	Supplier	Metals	Tin	7440-31-5		3.693	mg	1000000	37729
Lead frame_C7+AG_HDS	Copper & its alloys	53.878	mg	Supplier	Metals	Nickel	7440-02-0		1.582	mg	29365	16165
				Supplier	Glass	Silicon	7440-21-3		0.350	mg	6500	3578
				Supplier	Metals	Magnesium	7439-95-4		0.084	mg	1565	862
				Supplier	Metals	Silver	7440-22-4		3.394	mg	63000	34681
				Supplier	Metals	Copper	7440-50-8		48.467	mg	899570	495205