




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 *	25-10-2018
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			
<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			
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 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
STM32F051K4U6 STM32F051K4U6TR	F2MG*440XXXB	A	P1C7	25-10-2018
	Amount	UoM	Unit type	ST ECOPACK Grade
	48.87	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	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFN	5X5X0.55	32	No lead	
Comment	Package : A0B8 UFQFPN 5X5X0.55 32L 0.5 MM PITCH 8202208			

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-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	F2MG*440XXXB				6000001.0	999989.0
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	2.918	mg	supplier	die	Silicon (Si)	7440-21-3		2.633	mg	902330	53875
				supplier	metallization	Aluminium (Al)	7429-90-5		0.019	mg	6511	389
				supplier	metallization	Copper (Cu)	7440-50-8		0.097	mg	33242	1985
				supplier	metallization	Cobalt (Co)	7440-48-4		0.018	mg	6169	368
				supplier	metallization	Titanium (Ti)	7440-32-6		0.005	mg	1714	102
				supplier	metallization	Tungsten (W)	7440-33-7		0.011	mg	3770	225
				supplier	Passivation	Silicon Nitride	12033-89-5		0.013	mg	4455	266
				supplier	Passivation	Silicon Oxide	7631-86-9		0.122	mg	41809	2496
				Supplier	Metals	Silver (Ag)	7440-22-4		0.145	mg	800000	2971
				Supplier	Plastics/polymers	methylene diacrylate	42594-17-2		0.024	mg	134000	498
Die Attach	M-011 Other inorganic materials	0.181	mg	Supplier	Polymers	Dicyclopentenyloxyethyl methacrylate	68586-19-6		0.005	mg	25000	93
				Supplier	Organic Compounds	Polybutadiene Anhydride	Proprietary		0.005	mg	30000	111
				Supplier	Epoxy Resin	Epoxy cyclohexylethyltrimethoxysilane	3388-04-3		0.001	mg	5000	19
				Supplier	Amines	Bis(α,α-dimethylbenzyl) peroxide	80-43-3		0.001	mg	5000	19
				Supplier	Metallic compounds	Palladium (Pd)	7440-05-3		0.000	mg	1000	4
				Supplier	Glass	silica vitreous	60676-86-0		17.311	mg	889339	354188
				Supplier	Phenol Resin	Biphenyl epoxy resin	85954-11-6		0.901	mg	46109	18444
Mold Compound	M-011 Other inorganic materials	19.474	mg	Supplier	Phenol Resin	Phenolic resin	205830-20-2		0.703	mg	35965	14386
				Supplier	Epoxy Resin	Epoxy resin	Proprietary		0.361	mg	18444	7378
				Supplier	Glass	carbon black	1333-86-4		0.036	mg	1844	738
				Supplier	Glass	other	Proprietary		0.162	mg	8300	3320
				Supplier	Metals	Silver	7440-22-4		0.191	mg	960000	3914
				Supplier	Metals	Others	Proprietary		0.008	mg	40000	163
Bonding wire	M-011 Other inorganic materials	0.199	mg	Supplier	Metals	Copper (Cu)	7440-50-8		25.353	mg	973561	518757
				Supplier	Metals	Iron (Fe)	7439-89-6		0.619	mg	23764	12662
				Supplier	Metals	Iron Phosphide (Fe2P)	1310-43-6		0.037	mg	1431	762
				Supplier	Metals	Zinc (Zn)	7440-66-6		0.032	mg	1244	663
Lead frame	M-011 Other inorganic materials	26.042	mg	Supplier	Metals	Nickel (Ni)	7440-02-0		0.053	mg	916800	1094
				Supplier	Metals	Palladium (Pd)	7440-05-3		0.003	mg	58700	70
				Supplier	Metals	Gold (Au)	7440-57-5		0.001	mg	24500	29
Leadframe plating	M-011 Other inorganic materials	0.058	mg	Supplier	Metals	Nickel (Ni)	7440-02-0		0.053	mg	916800	1094
				Supplier	Metals	Palladium (Pd)	7440-05-3		0.003	mg	58700	70