




Materials Declaration Form

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

Supplier Information			
Company Name *	STMicroelectronics	Response Date *	26-06-2018
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
STM8AL3188TAX	U45B*79KX11Z	A	959	26-06-2018
	Amount	UoM	Unit type	ST ECOPACK Grade
	180.00	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	
NAC	NiPdAu	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
QFP	7x7x1.4	48	L Bend	
Comment	Package : 5B LQFP 48 7x7x1.4 1 0110596			

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 :						Mfr Item Name	U45B*79KX112				7000002.0	999999.0
note : Substance present with less 0.001mg will not be declared in this document												
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	6.683	mg	supplier	die	Silicon (Si)	7440-21-3		6.501	mg	972767	36117
				supplier	metallization	Aluminium (Al)	7429-90-5		0.016	mg	2394	89
				supplier	metallization	Copper (Cu)	7440-50-8		0.053	mg	7931	294
				supplier	metallization	Tantalum (Ta)	7440-25-7		0.006	mg	898	33
				supplier	metallization	Titanium (Ti)	7440-32-6		0.008	mg	1197	44
				supplier	Passivation	Silicon Nitride	12033-89-5		0.014	mg	2095	78
				supplier	Passivation	Silicon Oxide	7631-86-9		0.085	mg	12719	472
Lead-frame	M-011 Other inorganic materials	75.592	mg	supplier	alloy	Copper (Cu)	7440-50-8		72.936	mg	964855	405199
				supplier	alloy	Nickel (Ni)	7440-02-0		2.097	mg	27746	11652
				supplier	alloy	Silicium (Si)	7440-21-3		0.454	mg	6012	2525
				supplier	alloy	Magnesium (Mg)	7439-95-4		0.105	mg	1387	583
Lead-frame Coating	M-011 Other inorganic materials	0.403	mg	supplier	coating	Nickel (Ni)	7440-02-0		0.369	mg	914840	2048
				supplier	coating	Palladium (Pd)	7440-05-3		0.012	mg	29660	66
				supplier	coating	Gold (Au)	7440-57-5		0.011	mg	27750	62
				supplier	coating	Silver (Ag)	7440-22-4		0.011	mg	27750	62
Die Attach	M-011 Other inorganic materials	1.954	mg	supplier	glue or soft solder	Silver (Ag)	7440-22-4		1.505	mg	770000	8359
				supplier	glue or soft solder	Epoxy Cresol Novolak	29690-82-2		0.442	mg	226000	2454
				supplier	glue or soft solder	1-isopropyl-2,2-dimethyltrimethylene diisobut	6846-50-0		0.008	mg	4000	43
Wires	M-011 Other inorganic materials	0.913	mg	supplier	Bonding wire	Gold (Au)	7440-57-5		0.913	mg	1000000	5074
Encapsulation	M-011 Other inorganic materials	94.452	mg	supplier	Moulding Compound	Solid Epoxy Resin	Proprietary		6.786	mg	71847	37700
				supplier	Moulding Compound	Phenol Resin	Proprietary		4.847	mg	51319	26929
				supplier	Moulding Compound	Silica, vitreous	60676-86-0		82.043	mg	868623	455794
				supplier	Moulding Compound	Carbon-black	1333-86-4		0.485	mg	5132	2693
				supplier	Moulding Compound	Bismuth (Bi)	7440-69-9		0.145	mg	1540	808
				supplier	Bismuth/Bismuth Compounds	Bismuth	7440-69-9		0.145	mg	1540	808
Finishing	M-011 Other inorganic materials	0.002	mg	supplier	connections coating	Nickel (Ni)	7440-02-0		0.002	mg	1000000	13