



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 *	2018-04-17
Company Unique ID	NL 008751171B01		
Contact Name *	Floriana SAN BIAGIO	Contact Title	AMS MD Champion
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 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.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
	77BB*MV7JBAA	A	CA2A	2018-04-17
	Amount	UoM	Unit type	ST ECOPACK Grade
	7.0	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			

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	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		



Package Designator	Size	Nbr of instances	Shape	
LGA	2x2x0.86	12	flat	
Comment	A03G VFLGA 2X2X0.86 12L			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 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- 15th January 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
4,4'-isopropylidenediphenol (bisphenol A; BPA)	1000 ppm	0.001	Substance embedded in substrate materials	143
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Homogeneous Material above the limits per the definition within REACH				TRUE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Homogeneous Material (mg)	Application - Homogeneous Material	ppm in Homogeneous Material
4,4'-isopropylidenediphenol (bisphenol A; BPA)	1000 ppm	0.001	Substance embedded in substrate materials	707

Material Composition Declaration						Mfr Item Name	77B8*MV7JBAA		100%	100%	100%	100%	
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogenized material (ppm)	Concentration in product (ppm)	
Dies		3.060	mg	supplier	die	Silicon (Si)	7440-21-3		2.828	mg	924183	404000	
				supplier	metallisation	Aluminium (Al)	7429-90-5		0.009	mg	2941	1286	
				supplier	metallisation	Copper (Cu)	7440-50-8		0.008	mg	2614	1143	
				supplier	metallisation	Tantalum (Ta)	7440-25-7		0.002	mg	654	286	
				supplier	metallisation	Titanium (Ti)	7440-32-6		0.003	mg	980	429	
				supplier	metallisation	Tungsten (W)	7440-33-7		0.001	mg	327	143	
				supplier	Passivation	Silicon Nitride (SiN)	12033-89-5		0.006	mg	1961	857	
				supplier	passivation	Silicon Oxide	7631-86-9		0.033	mg	10784	4714	
				supplier	JIG - R & California 65	die glass coating	Lead-Borate Glass	65997-18-4	7c-I-Electrical and electron	0.170	mg	55556	24286
				supplier	core material	Fiber glass	65997-17-3		0.209	mg	147808	29857	
substrate	M-015 Other organic materials	1.414	mg	supplier	core material	Bisphenol F type epoxy resin	9003-36-5		0.117	mg	82744	16714	
				supplier	core material	Bismaleimide (B)	105391-33-1		0.070	mg	49505	10000	
				supplier	core material	Triazine (T)	25722-66-1		0.070	mg	49505	10000	
				supplier	core material	metal hydroxide	21645-51-2		0.005	mg	3536	714	
				supplier	core material	Zinc hydroxyde	20427-58-1		0.001	mg	707	143	
				supplier	core material	Calcium sulfate	7778-18-9		0.002	mg	1414	286	
				SVHC	core material	BPA	80-05-7		0.001	mg	707	143	
				supplier	Solder mask	Acrylic resin	9003-01-4		0.097	mg	68600	13857	
				supplier	Solder mask	Barium sulfate	7727-43-7		0.041	mg	28996	5857	
				supplier	Solder mask	epoxy resin	85954-11-6		0.036	mg	25460	5143	
				supplier	Solder mask	Talc	14807-96-6		0.025	mg	17680	3571	
				supplier	Solder mask	aromatic hydrocarbon	64742-94-5		0.011	mg	7779	1571	
				supplier	Solder mask	(2-methoxymethylethoxy)propanol	34590-94-8		0.027	mg	19095	3857	
				supplier	Solder mask	Acetate compound	112-15-2		0.027	mg	19095	3857	
				supplier	Solder mask	DPMA	88917-22-0		0.005	mg	3536	714	
				supplier	Solder mask	Diphenyl-trimethylbenzoyl phosphine oxide	75980-60-8		0.004	mg	2829	571	
				supplier	metallisation	Copper (Cu)	7440-50-8		0.590	mg	417256	84286	
				supplier	metallisation	Nickel (Ni)	7440-02-0		0.063	mg	44554	9000	
				supplier	metallisation	Gold (Au)	7440-57-5		0.013	mg	9194	1857	
				Die attach	M-015 Other organic materials	0.165	mg	supplier	glue	epoxy resin	25068-38-6		0.104
supplier	glue	Polypropylene	9003-07-0						0.003	mg	18182	429	
supplier	glue	epoxy resin	29690-82-2						0.017	mg	103030	2429	
supplier	glue	propenoate polymer	53831-13-6						0.033	mg	200000	4714	
supplier	glue	Diphenol Propane Diglycidyl Ether	1675-54-3						0.008	mg	48485	1143	
Bonding wire	M-008 Precious metals	0.034	mg	supplier	wire	Gold (Au)	7440-57-5		0.034	mg	1000000	4857	
				supplier	mold compound	Silica, vitreous	60676-86-0		2.106	mg	905028	300857	
encapsulation	M-015 Other organic materials	2.327	mg	supplier	mold compound	Epoxyde Bisphenol A Resin	25068-38-6		0.058	mg	24925	8286	
				supplier	mold compound	Epoxy Resin	29690-82-2		0.093	mg	39966	13286	
				supplier	mold compound	Phenol Resin	2506838-6		0.058	mg	24925	8286	
				supplier	mold compound	Carbon black	1333-86-4		0.012	mg	5157	1714	