



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 *	2018-05-16
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 *	Giovanni Giacopello	Representative Title	ADG 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

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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
SM4T23AY	AHST*TYU023C	A	64BA	2018-05-16
	Amount	UoM	Unit type	ST ECOPACK Grade
	70	mg	Each	ECOPACK2
	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
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOJ	4.14-2.76-1.94	2	J bend	
Comment	SMA			

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	FALSE
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)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 15th December 2017			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.01	Die	100
Lead	1.00	Soft solder	14243

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
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	AHST*TYU023C					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	1.112	mg	supplier	die	Silicon (Si)	7440-21-3		1.092	mg	982014	15600
				supplier	metallization	Aluminium (Al)	7429-90-5		0.003	mg	2698	43
				supplier	Passivation	Silicon Oxide	7631-86-9		0.004	mg	3597	57
				supplier	back side metallization	Aluminium (Al)	7429-90-5		0.004	mg	3597	57
				supplier	back side metallization	Gold (Au)	7440-57-5		0.002	mg	1799	29
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.007	mg	6295	100
Leadframe	M-004 Copper and its alloys	29.806	mg	supplier	alloy	Copper (Cu)	7440-50-8		29.767	mg	998692	425243
				supplier	alloy	Iron (Fe)	7439-89-6		0.030	mg	1006	429
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.009	mg	302	129
				supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high met	0.997	mg	920591	14243
Soft solder	Solder	1.083	mg	JIG - R	solder	Silver (Ag)	7440-22-4		0.027	mg	24931	386
				supplier	solder	Tin (Sn)	7440-31-5		0.054	mg	49861	771
				supplier	solder	Rux residue	Proprietary		0.005	mg	4617	71
				supplier	solder	Silica, vitreous	60676-86-0		19.590	mg	759980	279857
Encapsulation	M-011 Other inorganic materials	25.777	mg	supplier	mold compound	Epoxy Cresol Novolak	29690-82-2		2.629	mg	101990	37557
				supplier	mold compound	Phenol resin	9003-35-4		1.547	mg	60015	22100
				supplier	mold compound	Others	Proprietary		1.289	mg	50006	18414
				supplier	mold compound	Metal hydride	Proprietary		0.516	mg	20017	7371
				supplier	mold compound	Carbon black	1333-86-4		0.206	mg	7992	2943
connections coating	Solder	0.741	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		0.741	mg	1000000	10586
Clip	M-004 Copper and its alloys	11.481	mg	supplier	alloy	Copper (Cu)	7440-50-8		11.481	mg	1000000	164014