



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 *	2019-03-29
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
SCTWA20N120	TSWT*C12D0VF	A	Z8GA	2019-03-29
	Amount	UoM	Unit type	ST ECOPACK Grade
	6100	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
Not Applicable	Not Applicable	Not Applicable		
Bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	15.8-21-5	2	gull wing	
Comment	TO-247 LONG LEADS			

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	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 : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 26th October 2018			
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	#N/A	Die Leadframe	#N/A
Lead	3.00	Soft solder	491

QueryList : REACH-15th January 2019				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
Lead	1000 ppm	3.00	Soft solder	491
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				FALSE
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material
Lead	1000 ppm	3.00	Soft solder	955067

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TSWT*Cl2D0VF					
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	4.082	mg	Supplier	die	Silicium carbide	409-21-2		3.906	mg	956884	640
				Supplier	metallization	Aluminium (Al)	7429-90-5		0.088	mg	21558	14
				Supplier	Passivation	Silicon Oxide	7631-86-9		0.031	mg	7594	5
				Supplier	back side metallization	Titanium (Ti)	7440-32-6		0.002	mg	490	0
				Supplier	back side metallization	Gold (Au)	7440-57-5		0.006	mg	1470	1
				Supplier	back side metallization	Nickel (Ni)	7440-02-0		0.030	mg	7349	5
Leadframe	Copper and its alloy	5432.498	mg	Supplier	polymer die coating	PIXI Gamma-butyrolactone	96-48-0		0.019	mg	4655	3
				Supplier	alloy	Copper(CU)	7440-50-8		5399.893	mg	993998	885228
				Supplier	alloy	Iron (Fe)	7439-89-6		5.434	mg	1000	891
Adhesion Promoter	Other Organic Material	6.121	mg	Supplier	metallization	Nickel (Ni)	7440-02-0		27.171	mg	5002	4454
				Supplier	Adhesion Promoter	Ethanol	64-17-5		5.999	mg	980069	983
				Supplier	Adhesion Promoter	Aminopropyl triethoxysilane	919-30-2		0.122	mg	19931	20
Die Attach	Other Organic Material	3.138	mg	Supplier	solder	Tin(Sn)	7440-31-5		0.063	mg	20076	10
				Supplier	solder	Silver(Ag)	7440-22-4		0.078	mg	24857	13
				Supplier	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	2.997	mg	955067	491
Bonding wires	Other Inorganic Material	29.735	mg	Supplier	wire	Aluminum(Al)	84195-93-7		29.735	mg	1000000	4875
Encapsulation	Other Organic Material	571.504	mg	Supplier	molding compound	Silica,vitreous	60676-86-0		457.204	mg	800001	74951
				Supplier	molding compound	Flame retardant	Proprietary		27.432	mg	48000	4497
				Supplier	molding compound	Epoxy resin	25068-38-6		57.150	mg	99999	9371
				Supplier	molding compound	Phenol resin	Proprietary		27.432	mg	48000	4497
				Supplier	molding compound	Carbon black	1333-86-4		2.286	mg	4000	375
Connection coating	Other Inorganic Material	#N/A	mg	Supplier	solder alloy	Tin(Sn)	7440-31-5		52.922	mg	#N/A	8676