



## Materials Declaration Form

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

<b>Supplier Information</b>			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2017-01-30
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Authorized Representative *</b>	Giovanni Giacobello	<b>Representative Title</b>	ADG MD Champion
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	true	<b>Legal Declaration *</b>	Standard
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**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 omprehensive 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
STW12NK90Z	TSLW*EZ986WF	A	998G	2017-01-30
Amount	UoM	Unit type	ST ECOPACK Grade	
4430.00	mg	Each	ECOPACK2	

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		 life.augmented
NA	NA	NA		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SIP	15.75-20.15-5.15	3	Through-hole	
Comment	TO 247			

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)

Query : California Prop65 list, dated 5th August 2016			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			TRUE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			FALSE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.20	Die	44
Lead	24.48	Soft solder	5525

QueryList : REACH-20th June 2016				
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	TSLW*E2986WF					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	Other inorganic materials	29.714	mg	supplier	die	Silicon (Si)	7440-21-3		28.682	mg	965269	6474
				supplier	metallization	Aluminium (Al)	7429-90-5		0.404	mg	13596	91
				supplier	Passivation	Silicon Nitride	12033-89-5		0.135	mg	4543	30
				supplier	Passivation	Silicon Oxide	7631-86-9		0.214	mg	7202	48
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.014	mg	472	3
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.196	mg	6596	44
Leadframe	Copper & its alloys	2825.195	mg	supplier	back side metallization	Silver (Ag)	7440-22-4		0.069	mg	2322	16
				supplier	alloy	Copper (Cu)	7440-50-8		2821.522	mg	998700	636912
				supplier	alloy	Iron (Fe)	7439-89-6		1.300	mg	460	293
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		2.373	mg	840	536
Soft solder	Solder	25.629	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	24.475	mg	954973	5525
				supplier	solder	Silver (Ag)	7440-22-4		0.641	mg	25011	145
				supplier	solder	Tin (Sn)	7440-31-5		0.513	mg	20016	116
Bonding wires	Other inorganic materials	1.300	mg	supplier	wire	Aluminium (Al)	7429-90-5		1.300	mg	1000000	293
Encapsulation	Other Organic Materials	1538.866	mg	supplier	mold compound	Silica, vitreous	60676-86-0		1338.813	mg	870000	302215
				supplier	mold compound	Epoxy resin	25068-38-6		153.887	mg	100000	34737
				supplier	mold compound	Phenol resin	29690-82-2		38.472	mg	25000	8684
				supplier	mold compound	Carbon Black	1333-86-4		7.694	mg	5000	1737
Connections coating	Solder	9.296	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		9.296	mg	1000000	2098