



## 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*

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2018-05-03
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Authorized Representative *</b>	Rossana Bonaccorso	<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

**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
USBDF01W5	HCW8*USBDF1C	A	ZS1A	2018-05-03
	Amount	UoM	Unit type	ST ECOPACK Grade
	5.40	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
1	260	3		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
Not Applicable	Tin (Sn), matte	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
SOT	2 - 1.26 - 0.93	5	gull wing	
Comment	Package: SOT 323 5LDS			

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 : 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	0.002	Die	370

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

Material Composition Declaration :						Mfr Item Name		HCW8*USBDF1C					
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	0.244	mg	supplier	die	Silicon (Si)	7440-21-3		0.235	mg	963115	43519	
				supplier	metallization	Aluminium (Al)	7429-90-5		0.006	mg	24590	1111	
				supplier	Passivation	Silicon Oxide	7631-86-9		0.001	mg	4098	185	
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.002	mg	8197	370	
Leadframe	Copper & its alloys	1.216	mg	supplier	alloy	Copper (Cu)	7440-50-8		1.165	mg	958059	215741	
				supplier	alloy	Iron (Fe)	7439-89-6		0.038	mg	31250	7037	
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.001	mg	822	185	
				supplier	alloy	Zinc (Zn)	7440-66-6		0.002	mg	1645	370	
				supplier	metallization	Silver(Ag)	7440-22-4		0.010	mg	8224	1852	
Die attach	Other organic materials	0.060	mg	supplier	glue	Silver (Ag)	7440-22-4		0.041	mg	683334	7593	
				supplier	glue	methylene diacrylate	42594-17-2		0.015	mg	250000	2778	
				supplier	glue	Dicyclopentenyloxyethyl methacrylate	68586-19-6		0.002	mg	33333	370	
				supplier	glue	Polymer of Polybutadiene + Anhydride	Proprietary		0.002	mg	33333	370	
Bonding wire	Other inorganic materials	0.022	mg	supplier	wire	Copper (Cu)	7440-50-8		0.021	mg	954545	3889	
				supplier	wire	Palladium (Pd)	7440-05-3		0.001	mg	45455	185	
Encapsulation	Other inorganic materials	3.741	mg	supplier	mold compound	Silica, vitreous	60676-86-0		3.218	mg	860198	595926	
				supplier	mold compound	phenolic resin	29690-82-2		0.112	mg	29939	20741	
				supplier	mold compound	epoxy resin	9003-35-4		0.217	mg	58006	40185	
				supplier	mold compound	Biphenyl epoxy resin	85954-11-6		0.187	mg	49987	34630	
				supplier	mold compound	carbon black	1333-86-4		0.007	mg	1870	1296	
Connections coating	Solder	0.117	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		0.117	mg	1000000	21667	