



## 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 <i>* : Required Field</i>

Supplier Information			
<b>Company Name *</b>	STMicroelectronics	<b>Response Date *</b>	2018-07-17
<b>Company Unique ID</b>	NL 008751171801		
<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>	Floriana SAN BIAGIO	<b>Representative Title</b>	AMS 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**

While STMicroelectronics has endeavored to provide information which is accurate and up to date, this document and its contents are provided on a strict 'as is' and 'as available' basis. STMicroelectronics disclaims all warranties, express or implied related to this document and its contents, including but not limited to implied warranties of completeness, truth, accuracy, merchantability, fitness for a particular purpose and non-infringement. ST shall have no responsibility and assumes no liability for any cost, loss or damage of any kind which could arise, directly or indirectly, from the use or inability to use this document and/or its contents.


**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
	HVWV*UP71AA5	A	ZS1A	2018-07-17
Amount	UoM	Unit type	ST ECOPACK Grade	
17.1	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	Nickel/Palladium/Gold (Ni/Pd/Au)	Copper Alloy		

Package Designator	Size	Nbr of instances	Shape	
DSO	2.8x1.5x0.9	5	gull wing	
Comment	WV SOT 23 5L; MDF valid for LD39015M12R			

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 : REACH-27th June 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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	HVVV*UP71AA5				4999999.0	999939.0
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	0.339	mg	supplier	die	Silicon (Si)	7440-21-3		0.320	mg	943953	18713
				supplier	metallization	Aluminium (Al)	7429-90-5		0.004	mg	11799	234
				supplier	metallization	Tungsten (W)	7440-33-7		0.003	mg	8850	175
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	2950	58
				supplier	Passivation	Silicon Oxide	7631-86-9		0.007	mg	20649	409
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.004	mg	11799	234
Leadframe	M-004 Copper and its alloys	7.464	mg	supplier	Alloy	Copper (Cu)	7440-50-8		7.191	mg	963424	420526
				supplier	Alloy	Iron (Fe)	7439-89-6		0.168	mg	22508	9825
				supplier	Alloy	Phosphorus (P)	7723-14-0		0.002	mg	268	117
				supplier	Alloy	Zinc (Zn)	7440-66-6		0.009	mg	1206	526
				supplier	metallization	Nickel (Ni)	7440-02-0		0.086	mg	11522	5029
				supplier	metallization	Palladium (Pd)	7440-05-3		0.007	mg	938	409
Die attach	M-015 Other organic materials	0.071	mg	supplier	metallization	Gold (Au)	7440-57-5		0.001	mg	134	58
				supplier	Glue	Silver (Ag)	7440-22-4		0.058	mg	816901	3392
				supplier	Glue	Carbocyclic Acrylates	proprietary		0.007	mg	98592	409
Bonding wires	M-008 Precious metals	0.156	mg	supplier	Glue	Bismaleimide resin	35325-39-4		0.002	mg	28169	117
				supplier	Glue	2-preponic acid, 2-methyl	68586-19-6		0.002	mg	28169	117
				supplier	Glue	Additive	proprietary		0.002	mg	28169	117
				supplier	wire	Gold (Au)	7440-57-5		0.156	mg	1000000	9123
				supplier	Molding Compound	Epoxy Resin-1	29690-82-2		0.272	mg	29992	15906
Encapsulation	M-015 Other organic materials	9.069	mg	supplier	Molding Compound	Epoxy Resin-2	Proprietary		0.272	mg	29992	15906
				supplier	Molding Compound	Phenol resin	25068-38-6		0.408	mg	44988	23860
				supplier	Molding Compound	Silica	60676-86-0		7.918	mg	873084	463041
				supplier	Molding Compound	Carbon Black	1333-86-4		0.018	mg	1985	1053
				supplier	Molding Compound	Others	Proprietary		0.181	mg	19958	10585