



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 *	2018-04-06
Company Unique ID	NL 008751171801		
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 *	Floriana SAN BIAGIO	Representative Title	AMS 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

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

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
	HVWV*U1F2AB5	A	ZS1A	2018-04-06
Amount	UoM	Unit type	ST ECOPACK Grade	
16	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 LDK715M50R			

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-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 : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	HVVV*U1F2AB5				5000000.0	1000000.0
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	0.515	mg	supplier	die	Silicon (Si)	7440-21-3		0.487	mg	945631	30438
				supplier	metallization	Aluminium (Al)	7429-90-5		0.006	mg	11650	375
				supplier	metallization	Tungsten (W)	7440-33-7		0.005	mg	9709	313
				supplier	Passivation	Silicon Nitride	12033-89-5		0.001	mg	1942	63
				supplier	Passivation	Silicon Oxide	7631-86-9		0.010	mg	19417	625
				supplier	polymer die coating	PIX1 Gamma-butyrolactone	96-48-0		0.006	mg	11650	375
Leadframe	M-004 Copper and its alloys	6.897	mg	supplier	alloy	Copper (Cu)	7440-50-8		6.643	mg	963172	415188
				supplier	alloy	Iron (Fe)	7439-89-6		0.155	mg	22474	9688
				supplier	alloy	Phosphorus (P)	12185-10-3		0.002	mg	290	125
				supplier	alloy	Zinc (Zn)	7440-66-6		0.009	mg	1305	563
				supplier	terminal plating	Nickel (Ni)	7440-02-0		0.080	mg	11599	5000
				supplier	terminal plating	Palladium (Pd)	7440-05-3		0.007	mg	1015	438
Die attach	M-015 Other organic materials	0.067	mg	supplier	glue	Gold (Au)	7440-57-5		0.001	mg	145	63
				supplier	glue	Silver (Ag)	7440-22-4		0.054	mg	805970	3375
				supplier	glue	Carbocyclic Acrylates	proprietary		0.007	mg	104478	438
				supplier	glue	Bismaleimide resin	35325-39-4		0.002	mg	29851	125
Bonding wires	M-008 Precious metals	0.144	mg	supplier	glue	2-preponic acid, 2-methyl	68586-19-6		0.002	mg	29851	125
				supplier	glue	Additive	proprietary		0.002	mg	29851	125
				supplier	wire	Gold (Au)	7440-57-5		0.144	mg	1000000	9000
				supplier	mold compound	Epoxy Resin A	29690-82-2		0.251	mg	29959	15688
Encapsulation	M-015 Other organic materials	8.378	mg	supplier	mold compound	Epoxy Resin B	Proprietary		0.251	mg	29959	15688
				supplier	mold compound	Phenol Resin	25068-38-6		0.377	mg	44999	23563
				supplier	mold compound	Silica	60676-86-0		7.315	mg	873120	457188
				supplier	mold compound	Carbon Black	1333-86-4		0.016	mg	1910	1000
				supplier	mold compound	Others	Proprietary		0.168	mg	20053	10500